

1 - Operating Systems - all

Test ID: 132816963

Question #1 of 99

Question ID: 1176354

You need to install Windows 8 on a client's computer. The computer does not have a network connection or an optical drive. Which of these installation options are available to you?

- ✓ **A) USB**
- X **B) CD/DVD**
- X **C) Netboot**
- X **D) PXE**

Explanation

If you need to install Windows 8 on a client's computer and the computer does not have a network connection or an optical drive, your best option of those given is to boot from a USB drive. Netbooks and tablet PCs do not have optical drives, and installation from a USB or flash drive is the best option.

None of the other options is available on the computer you describe. PXE is a Pre eXecution Environment that boots over a network. Netboot is also booting over a network. CDs (which do not have sufficient storage for a boot image) and DVDs are optical drives.

To boot from USB, you must create a USB boot drive that contains an ISO image. You can download the ISO file and then run the Windows USB/DVD Download tool to create a bootable USB drive.

You can also create a bootable external or hot swappable drive and install Windows from there. In addition, Windows can be installed to a solid state or flash drive, which would also be configured as the boot drive.

You can boot over the network using PXE. Netboot is a similar technology available from Apple for Macs.

You must ensure that you have a properly formatted boot drive with the correct partitions/format. Always research the partition types and formatting options before creating a boot drive to ensure that you select the appropriate options. The most popular boot method is to use an internal hard drive/partition.

For the A+ exam, you need to understand solid state/flash drives. Solid-state drives have no internal moving parts. They use integrated circuit assemblies as memory to store data persistently. Flash drives are small solid-state drives that usually plug into a USB port to act as an additional hard drive.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Windows USB/DVD Download Tool, <https://www.microsoft.com/en-us/download/windows-usb-dvd-download-tool>

Install Windows 7 From an External Hard Drive,
http://www.pcworld.com/article/165159/Install_Windows_7_From_an_External_Hard_Drive.html

How to set up an SSD as a "boot drive", <http://www.tomshardware.com/forum/274193-32-boot-drive>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #2 of 99

Question ID: 1202752

Which feature of the Microsoft Windows operating system helps reduce repetitive traffic over a WAN?

- X **A)** Domain access
- ✓ **B)** BranchCache
- X **C)** EFS
- X **D)** BitLocker

Explanation

BranchCache helps reduce repetitive traffic over a WAN. Users in remote offices who would normally access a common file from a central repository can cause a high amount of expensive WAN traffic. With BranchCache, the file can be cached at the remote office, drastically reducing the WAN bandwidth. An example of an implementation of BranchCache is a new training video for thousands of users in multiple remote offices.

Domain access is a feature in the professional versions of Windows that is not available in the personal versions. Domain access allows the user to connect to a corporate domain.

BitLocker encrypts the hard drive and decryption requires the user to input a PIN. BitLocker prevents offline attacks, such as during the boot process or when a hard drive is moved from one system to another.

Encrypting File System (EFS) differs from BitLocker in that EFS encrypts individual files based on user selection, while BitLocker provides automatic drive-level encryption.

Objective:

Operating Systems

Sub-Objective:

Compare and contrast features of Microsoft Windows versions.

References:

Microsoft Windows BranchCache, <https://searchenterprisedesktop.techtarget.com/definition/Microsoft-Windows-BranchCache>

Question #3 of 99

Question ID: 1176372

When you start Windows 7, an error message is displayed that indicates that a service failed to load.

Which utility can you use to determine why the service failed to load?

- X **A)** Resource Meter
- X **B)** System Configuration
- X **C)** Network Monitor
- ✓ **D)** Event Viewer

Explanation

In Windows 7, a service that fails to load generates an event. You can use the Event Viewer utility to view the event and help you determine why the service failed to load. Any event that generates a message can be located in Event Viewer, which is helpful when a user cannot remember the exact wording of an error message.

The error log must be monitored and cleared occasionally. Otherwise, it can fill and stop collecting events. In that case, it normally generates a message saying error log full. If a log is full, you should use Event Viewer to clear the log.

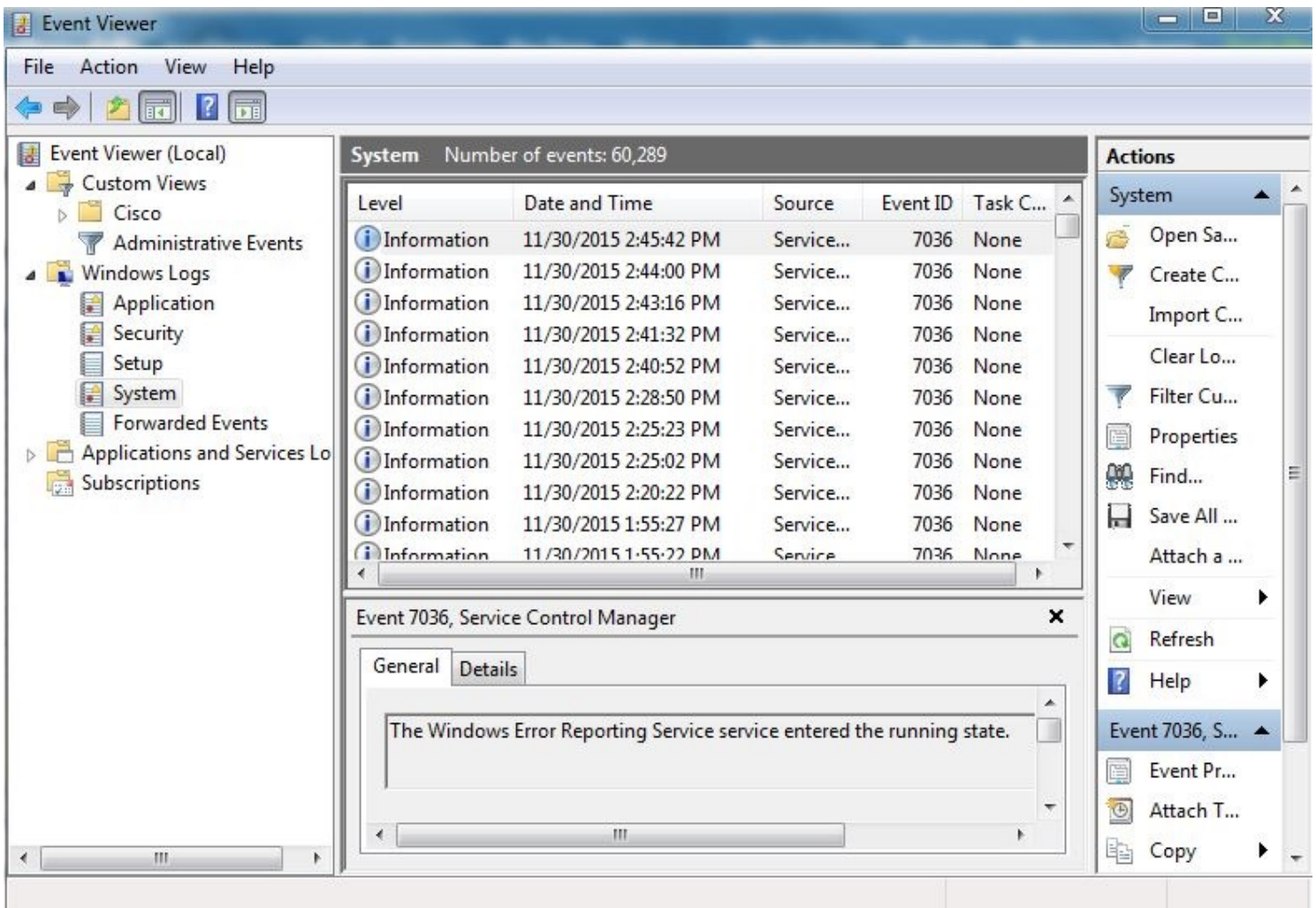
The Resource Meter was a utility provided in Windows 9x and Windows Me that enabled you to investigate shortages in system resources.

Network Monitor is a network monitoring and analysis tool that enables you to troubleshoot network performance problems, such as bottlenecks and broadcast storms.

The System Configuration Utility enables you to determine which lines in specific configuration files, such as the Autoexec.bat file, will be run when you start your computer.

Keep in mind that all Windows computers include a group of applications called Administrative Tools. This group of tools includes, but is not limited to, Event Viewer, Performance Monitor, and Backup.

The Event Viewer in Windows 7 allows you to create custom views. It also includes several categories of logs and an Actions pane, as shown in the following exhibit:



The Event Viewer in Windows 8 received minor updates and looks very similar to the Windows 7 Event Viewer. The Event Viewer in Windows 10 is identical to Windows 8.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

Using Event Viewer, [http://technet.microsoft.com/en-us/library/bb684663\(TechNet.10\).aspx](http://technet.microsoft.com/en-us/library/bb684663(TechNet.10).aspx)

Better troubleshooting capabilities with Windows 7 Event Viewer, <http://www.techrepublic.com/blog/windows-and-office/better-troubleshooting-capabilities-with-windows-7-event-viewer/>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #4 of 99

Question ID: 1176351

A small business owner has five computers in the office that need to be networked. The users need to share files and print services and manage the administration of their shared resources. Which type of network would you recommend to the owner?

- X **A)** Homegroup
- X **B)** Ad hoc network
- ✓ **C)** Workgroup
- X **D)** Domain

Explanation

A workgroup is recommended when five computers need to be networked, and the users need to share files and print services and manage the administration of their shared resources.

A workgroup is best suited for a small group of computers, typically no more than 20. Each computer can be a server (allow others to access that computer's resources) and a client (access the resources on another computer), providing that access has been granted. Each computer controls what is shared and available to the others. Individual users can control the administration of access on their machines. Each user needs an account on the other machines where they wish to log on.

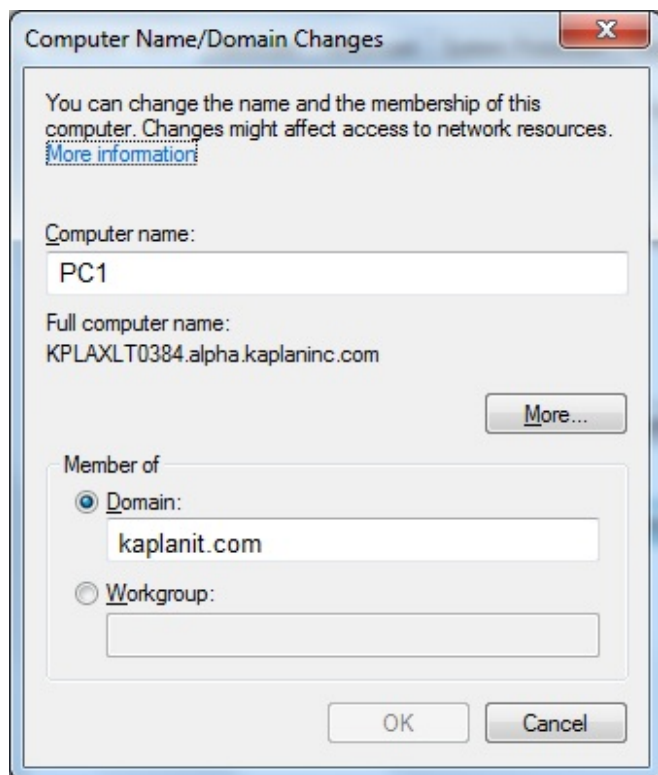
Once a user creates an account on the domain, the user may log on to any computer in the domain with those credentials. A domain is suited for larger networks, and may span across multiple locations and local networks.

An ad hoc network is best suited for one-time temporary connection and can only be wireless.

A Homegroup is best suited for home networks.

To join or create a workgroup, go to Computer and right-click Properties. Scroll down to the Computer Name, domain and workgroup settings section and click the Change settings option.

To change the workgroup or domain, click the Change button on the Computer Name tab of the System Properties dialog box. This will display the Computer Name/Domain Changes dialog box, as shown in the following exhibit:



To join a workgroup, you should select the Workgroup option and enter the workgroup's name.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Difference between workgroup and domain, <http://www.differencebetween.net/technology/difference-between-workgroup-and-domain/>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #5 of 99

Question ID: 1176370

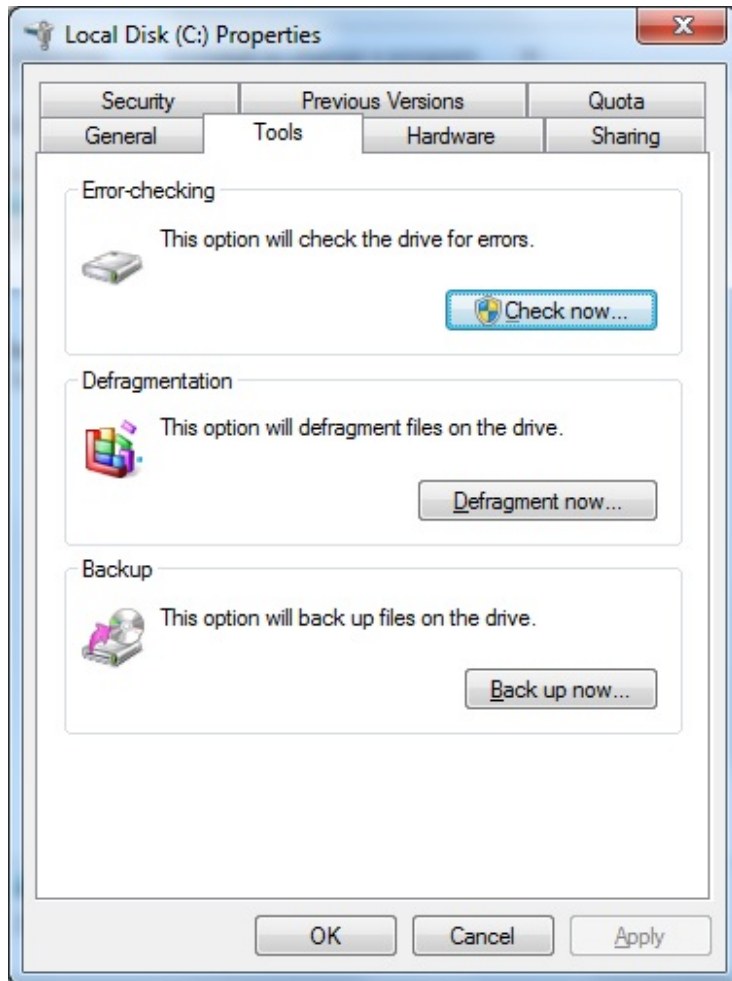
You are accessing the Tools tab of the hard drive's Properties dialog box on a Windows 7 computer. Which of the following is NOT a disk maintenance utility found there?

- ✓ A) Format
- X B) Defragmentation
- X C) Backup

X **D)** Error-checkingExplanation

Format is not a disk maintenance utility found in the Tools tab of the hard drive's Properties dialog box.

Error-checking, defragmentation, and backup are all utilities that can be accessed in the Tools tab, as shown in the following exhibit:



Run the appropriate tool based on your needs.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

Hard Drive Basics, https://www.homeandlearn.co.uk/BC/win7/hard_drive_basics.html

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #6 of 99

Question ID: 1202768

On your first day on the job as an A+ technician, you observe your boss executing the command `chkdsk`. Which statement is true of this utility?

- X **A)** It rearranges a file to enable it to occupy contiguous space on a drive.
- X **B)** It detects Windows disk errors, but fixing errors requires the `scandisk` utility.
- X **C)** It is a command-line utility that is NOT available in Windows 7 and later.
- ✓ **D)** It detects and fixes file system errors on a Windows disk.

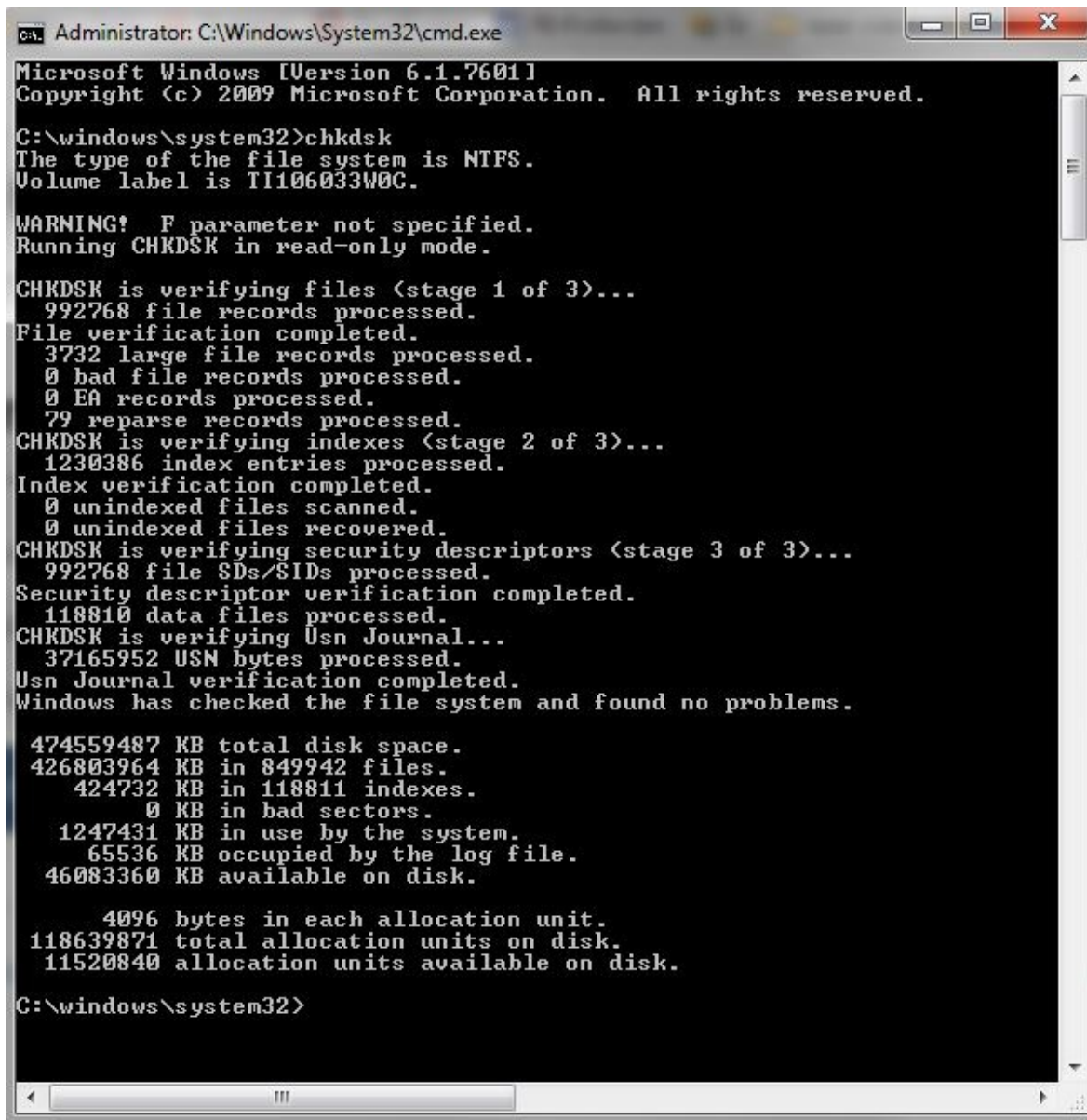
Explanation

The `chkdsk` command-line utility detects and fixes logical errors in the file system of a drive. If a file is open when the `chkdsk` utility runs, the file cannot be scanned at that time. The file will be marked, and `chkdsk` will scan the file the next time the computer is booted. Running this command along with `defrag` can help improve the performance of the computer. When the `chkdsk` command is executed, the Windows Autochk program will run. Other conditions that can cause the Windows Autochk program to run are when a volume is flagged as dirty or when the hard drive has a SMART error.

The Disk Defragmenter utility rearranges a file to enable it to occupy contiguous space on a drive.

The default behavior of `chkdsk` is to detect errors and generate a report. Running `chkdsk` with the `/f` or `/r` switch allows it to fix disk errors. The `/f` switch fixes errors. The `/r` switch fixes errors, locates bad sectors, and recovers information.

The `chkdsk` command can be launched from the command line of a Windows 7, Windows 8, Windows 8.1, or Windows 10 computer. The parameters of the `chkdsk` are shown in the following exhibit:



```
Administrator: C:\Windows\System32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\windows\system32>chkdsk
The type of the file system is NTFS.
Volume label is TI106033W0C.

WARNING! F parameter not specified.
Running CHKDSK in read-only mode.

CHKDSK is verifying files (stage 1 of 3)...
 992768 file records processed.
File verification completed.
 3732 large file records processed.
 0 bad file records processed.
 0 EA records processed.
 79 reparse records processed.
CHKDSK is verifying indexes (stage 2 of 3)...
1230386 index entries processed.
Index verification completed.
 0 unindexed files scanned.
 0 unindexed files recovered.
CHKDSK is verifying security descriptors (stage 3 of 3)...
 992768 file SDs/SIDs processed.
Security descriptor verification completed.
118810 data files processed.
CHKDSK is verifying Usn Journal...
 37165952 USN bytes processed.
Usn Journal verification completed.
Windows has checked the file system and found no problems.

474559487 KB total disk space.
426803964 KB in 849942 files.
 424732 KB in 118811 indexes.
 0 KB in bad sectors.
1247431 KB in use by the system.
 65536 KB occupied by the log file.
46083360 KB available on disk.

    4096 bytes in each allocation unit.
118639871 total allocation units on disk.
11520840 allocation units available on disk.

C:\windows\system32>
```

You can also run this utility by right-clicking a hard drive, selecting Properties, clicking the Tools tab, and selecting the Check now button in the Error-checking section.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use appropriate Microsoft command line tools.

References:

MS-DOS chkdsk command help, <http://www.computerhope.com/chkdskh.htm>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.4 Given a scenario, use appropriate Microsoft command line tools

Question #7 of 99

Question ID: 1176334

You need to install Windows 7 Professional on a user's x86 computer. Which hardware is NOT a minimum requirement?

- ✓ **A) 2 gigabytes RAM**
- X **B) 16 gigabytes available hard drive space**
- X **C) 1 gigahertz processor**
- X **D) DirectX 9 graphics card**

Explanation

To install Windows 7 Professional on a user's computer, you do not need 2 gigabytes (GB) of RAM. This amount of RAM is needed for the 64-bit versions of Windows 7. Because the scenario did not specifically mention using a 64-bit version of the operating system, you should assume the 32-bit version is being used.

All 32-bit versions of Windows 7 have the following minimum requirements:

- 1 gigahertz (GHz) processor
- 1 GB RAM
- 16 GB available hard drive space
- DirectX 9 graphics card with WDDM 1.0 or higher driver

All 64-bit versions of Windows 7 have the following minimum requirements:

- 1 GHz processor
- 2 GB RAM
- 20 GB available hard drive space
- DirectX 9 graphics card with WDDM 1.0 or higher driver

There are additional hardware requirements for some of the following features in Windows 7:

- Internet access
- Additional memory and graphics card hardware for video playback, depending on resolution
- DirectX 10.0 or higher for optimal operation of some applications
- TV tuner and additional hardware for some Windows Media Center functions
- Homegroup requires a network and Windows 7 computers
- A compatible optical drive for DVD/CD authoring
- Trusted Platform Module (TPM) 1.2 for BitLocker
- USB flash drive for BitLocker To Go
- Additional 1 GB RAM and 15 GB available hard drive space for Windows XP Mode

Windows 8 and 8.1 have the following minimum requirements:

- 1 GHz 32-bit or 64-bit processor with support for PAE, NX, and SSE2
- 1 GB RAM (32-bit) or 2 GB RAM (64-bit)

- 16 GB hard drive space (32-bit) or 20 GB (64-bit)
- DirectX 9 graphics card with WDDM driver

Windows 10 has the following minimum requirements:

- Processor: 1 gigahertz (GHz) or faster, or SoC
- RAM: 1 gigabyte (GB) for 32-bit or 2 GB for 64-bit
- Hard disk space: 16 GB for 32-bit OS or 20 GB for 64-bit OS
- Graphics card: DirectX 9 or later with WDDM 1.0 driver
- Display: 800 x 600

Objective:

Operating Systems

Sub-Objective:

Compare and contrast features of Microsoft Windows versions.

References:

Windows 7 System Requirements, <http://windows.microsoft.com/en-us/windows7/products/system-requirements>

Windows 8.1 System Requirements, <http://windows.microsoft.com/en-US/windows-8/system-requirements>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1. 2 Compare and contrast features of Microsoft Windows versions

Question #8 of 99

Question ID: 1176328

Which of the following is an open-source mobile operating system?

- X **A)** Windows
- X **B)** iOS
- ✓ **C)** Android
- X **D)** None of the above

Explanation

Android is an open-source mobile operating system based on Linux that was developed by Google.

iOS is a closed source, vendor-specific, device-specific operating system, only working on Apple devices.

Windows is a closed source, vendor-specific operating system from Microsoft.

For the A+ exam, you need to understand many features of mobile operating systems, as shown in the following exhibit:

Features	Android	iOS	Windows
App Source	Google Play Store	Apple's App Store	Windows Store
Screen Orientation	Use the Auto-rotate screen button in the Display settings	Use the Orientation Lock button in Control Center	Use Apps > Settings > Screen Rotation
WiFi Calling	Go to Settings > Wireless and Network > More Settings > WiFi Calling	Go to Settings > Phone > Wi-Fi Calling. Requires iOS 8 or higher.	Available as an app (Mobile VOIP)
Launcher/GUI	Luancher is the home screen and is customizable	Can be customized but requires third-party apps or Apple Developer Kit	Not customizable
Virtual Assistant	many apps available	Siri voice-activated assistant	Cortana voice-activated assigned
SDK/APK	SDK available through http://developer.android.com/index.html . APK is the package name (similar to ZIP file) for .deb packages for Debian Linux	SDK available through https://developer.apple.com/ios/	SDK available through https://dev.windows.com/en-us/downloads/sdk-archive
Emergency Notification	Managed through Settings > More > Emergency Broadcasts	Managed through Settings > Notifications > Government Alerts	Managed through Settings > Applications > Messaging
Mobile Payment Service	Android Pay	Apple Pay	Windows Wallet app

Objective:

Operating Systems

Sub-Objective:

Compare and contrast common operating system types and their purposes.

References:Is Android Really Open Source, <https://www.eweek.com/blogs/first-read/is-android-really-open-source>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.1 Compare and contrast common operating system types and their purposes

Question #9 of 99

Question ID: 1176363

Christine, a user, has contacted you saying she wants to organize the contents of her My Documents folder into subfolders. Which command should she use?

- X **A)** cd
- X **B)** ren
- X **C)** dir

✓ **D)** md

Explanation

The md command should be used to create new folders and subfolders.

The ren command should be used to rename a file or folder.

The dir command should be used to display the contents of a directory or folder.

The cd command should be used to navigate to a different directory folder in the command prompt.

Other commands that you should be familiar with for the A+ exam include rd, deltree, del, tasklist, taskkill, shutdown, sfc, and bootrec.

The rd (or rmdir) command removes the specified directory, provided the directory is empty.

The deltree command removes the specified directory and all files and subdirectories within that directory.

The del command deletes one or more files. When using this command, you need to be aware of the following parameters:

- /P - Prompts for confirmation before each deletion.
- /F - Forces deletion of read-only files.
- /S - Deletes specified files from all subdirectories.
- /Q - Uses quiet mode. This prevents prompting of the user.
- /A - Selects files to delete based on file attributes.

The tasklist command displays a list of all running processes. When using this command, you need to be aware of the following parameters:

- /S system - Specifies the remote system to use.
- /U domain_name\user_name - Specifies the user context for the command.
- /P password - Specifies password for user account.
- /SVC - Specifies services hosted in each process.
- /V - Displays verbose tasks information.

The taskkill command terminates the processes given in the command. When using this command, you need to be aware of the following parameters:

- /pid process_ID - Terminates the process with the given process ID.
- /f - Forces termination.
- /t - Terminates all child processes of the specific process that is being terminated.

The shutdown command schedules a system shutdown. When using this command, you need to be aware of the following parameters:

- /S - Turns the computer off.
- /R - Restarts the computer.
- /M \\computer_name - Specifies the remote computer to shutdown/restart.

- /C comment - Displays the given comment prior to shutting down.

The sfc command verifies the version of system files running on the computer. Corrupted files will be replaced with correct versions. When using this command, you need to be aware of the following parameters:

- /SCANNOW - Scans protected files immediately.
- /SCANONCE - Scans all protected files once.
- /SCANBOOT - Scans all protected files every time the computer reboots.
- /VERIFYONLY - Scans the protected files, but does not make repairs or changes.
- /SCANFILE - Scans only the specified file.

The bootrec command interacts with the Master Boot Record (MBR), boot sector, or boot configuration data (BCD) store. It is considered a replacement for the Recovery Console. When using this command, you need to be aware of the following parameters:

- /FIXBOOT - Writes a new boot sector.
- /FIXMBR - Writes a new MBR.
- /REBUILDBCD - Rebuilds BCD store.
- /SCANOS - Scans all disks for installations the Boot Manager menu is not listing.

To run the Bootrec.exe tool, you must start the Windows Recovery Environment (RE). To do so, follow these steps:

1. Put the Windows installation disc in the disk drive, and then start the computer.
2. Press a key when you are prompted.
3. Select a language, a time, a currency, a keyboard or an input method, and then click Next.
4. Click Repair your computer.
5. Click the operating system that you want to repair, and then click Next.
6. In the System Recovery Options dialog box, click Command Prompt.
7. Type Bootrec.exe, and then press ENTER.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use appropriate Microsoft command line tools.

References:

MS-DOS md and mkdir command help, <http://www.computerhope.com/mdhlp.htm>

Command-Line Reference, <https://technet.microsoft.com/en-us/library/cc754340.aspx>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.4 Given a scenario, use appropriate Microsoft command line tools

Question #10 of 99

A user that has a Windows 7 laptop is frequently away from the office. During that time, he needs access to several files that are on the network. What should you do?

- ✓ **A) Enable offline files.**
- X **B) Create a Windows 7 library.**
- X **C) Enable BitLocker To Go.**
- X **D) Enable BitLocker.**

Explanation

You should enable offline files. The offline files feature allows users to access network files even when the network is unavailable. When the network is available, the files are synced to ensure that both the online and offline versions are the same. In Windows 7 and higher, you enable offline files using the Sync Center in Control Panel.

Sync Center works when you have mobile devices that support this feature. Remember that Sync Center basically syncs files with other devices on your network. All you have to do to find out whether your device is compatible with Sync Center is to plug it into your computer. Most manufacturers have software you can install on your computer that came with the device. Once you have successfully synced, your device will appear in the list of new sync partnerships.

You should not enable BitLocker or BitLocker To Go. BitLocker is an encryption technology included in Windows 7 and above that encrypts files on a hard drive. BitLocker To Go is an encryption technology included in Windows 7 and above that encrypts files on a removable drive, such as a USB flash drive.

You should not create a Windows 7 library. Libraries were introduced in Windows 7 and were retained in Windows 8 and higher. Libraries are similar to folders, but libraries do not actually store files. A library can display files that are stored in several folders at the same time. Libraries allow a user to organize all related document, pictures, and other files so that they appear to the user in a single location, when in fact they are still stored in their separate locations.

For the A+ exam, you need to be familiar with many of the Control Panel utilities. CompTIA notes that you should be using the Classic view with large icons, instead of Category view, which is the default view for many Windows versions. The following Control Panel utilities are common to Windows 7, 8, 8.1, and 10: Internet Options, Display, User Accounts, Folder Options, System, Security Center, Windows Firewall, and Power Options.

The Internet Options utility allows you to configure Internet connectivity options and includes the following tabs:

- General tab - Allows you to set the home page you will use, history setting, search defaults, and browser appearance options.
- Security tab - Allows you to add Web sites to particular zones and security levels. Zones that you can use include Internet, Local Intranet, Trusted Sites, and Restricted Sites. The default security level for most zones is High or Medium-High.
- Privacy tab - Allows you to configure your privacy label, disable or enable Pop-Up Blocker, and disable or enable toolbars.

- Content tab - Allows you to control content that can be viewed by the user. This tab contains Parental Controls and Content Advisor.
- Connections tab - Allows you to configure an Internet connections, including dial-up, VPN, wired, and wireless settings.
- Programs tab - Allows you to specify the default browser, default HTML editor, and file associations.
- Advanced tab - Allows you to reset to defaults.

The Display utility allows you to change the display resolution, font size, and adjust brightness. Display resolution typically ranges from 800x600 to 1280x800, but higher or lower options can be used if needs require it.

The User Accounts utility allows you to create and manage user accounts and all user-related settings, including passwords. To create a user account or change its settings, you must be using an administrative-level account.

The Folder Options utility allows you to configure folder settings. When this utility launches, you have three tabs available:

- General tab - Allows you to configure browsing actions and clicking actions and configure the navigation pane. The settings here affect the layout of Folders when they are displayed.
- View tab - Allows you to enable/disable individual Advanced settings, including the Hide extensions for known file systems setting and the Hide protected operating system files (Recommended) options. Sharing is configured on the View tab using the Use Sharing Wizard (Recommended) option. To view hidden files, select the Show Hidden Files and Folders option on the View tab.
- Search tab - Allows you to configure what and how to search and non-indexed locations search options.

The System utility allows you to view and configure various system options. Depending on the operating system, you will either have a small dialog box that options with several tabs or a larger box with options on the side. To configure performance or virtual memory settings, you should either click the Advanced tab or select the Advanced System Settings option on the left. To configure remote settings, you should select the Remote tab or select the Remote Settings option on the left. System protection can be configured on the System Protection tab or by clicking the System Protection tab on the left, which allows you to configure the System Restore options.

The Security Center utility allows you to configure the firewall, automatic updates, and anti-virus protection. In Windows 7, 8, and 8.1, Security Center was included in the Action Center.

The Windows Firewall utility allows you to configure and manage the firewall included with the operating system.

The Power Options utility allows you to configure different power schemes that can reduce the power needs of the computer based on certain situations. Power plans grant users better control over power usage. Pre-configured power schemes include the following:

- Hibernate - Everything is placed into active memory. When the computer is powered back up, Windows reloads all the files and applications into RAM.
- Sleep/Suspend - Windows records the contents of memory to the hard drive. However, it also maintains the memory for a period of time, allowing for a faster recovery. Sleep initially means Standby. Sleep will drop into Hibernate if the battery level drops below a certain level or after a pre-configured time limit.
- Standby - This mode is the same as the initial sleep mode.

To access the Control Panel in Windows 8 and higher, you either swipe from the right edge of the screen on a touch screen or point to the upper-right hand corner of the screen, click Search, and type Control Panel.

Control Panel in Windows 7, 8, 8.1, and 10 has the following categories in Control Panel in Category View:

- System and Security
- Network and Internet
- Hardware and Sound
- Programs
- User Accounts
- Appearance and Personalization
- Clock, Language, and Region
- Ease of Access

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft Windows Control Panel utilities.

References:

How to Use Offline Files, <http://hs.windows.microsoft.com/hhweb/content/m-en-us/p-6.2/id-93a550df-34cd-4497-85d0-8732602f5959/>

Windows libraries, <https://docs.microsoft.com/en-us/windows/client-management/windows-libraries>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.6 Given a scenario, use Microsoft Windows Control Panel utilities

Question #11 of 99

Question ID: 1176408

You need to create a hard drive image on a Linux computer. Which command should you use?

- ✓ **A) dd**
- X **B) mv**
- X **C) ls**
- X **D) cp**

Explanation

The dd Linux command creates a hard drive image. The dd command allows you to copy a file and convert it to another format during the copying process. For example, you can create a hard drive image by entering the dd if=/dev/sda of=~/.myharddrive.img command, where if is the input file or source, and of is the output image file.

The ls command lists file and directory contents. It is comparable to the Windows dir command.

The mv command mv renames or moves a file. For example, the mv file1.txt file1backup.txt command renames file1.txt as file1backup.txt. On the other hand, the mv file1.txt /backupfiles command would move file1.txt from the current directory to the backupfiles directory.

The cp command copies files and directories. In its most basic form, the cp /oldfiles /newfiles command copies the files and directory structure in the /oldfiles directory to the /newfiles directory.

For the A+ exam, you must understand the following common basic Linux commands:

- apt-get - allows you to work with the Advanced Packaging Tool and install packages (applications) in Ubuntu, which is a Debian-based distribution.
- cd - changes directory. It is similar to the Windows cd command. For example, the cd / moves you to the root directory, and cd.. moves you to the parent directory.
- chmod - changes the permissions on a file. The basic syntax is chmod user=PermissionList filename. The user parameter can be u for you, g for the group, or o for other. The permission list parameters include r for read, w for write, x for execute, and - for no access. For example, the chmod u=rwx,g=r-x, o=r-- myspecialfile command would give the user read, write and execute access, the group read and execute access, and other users read access only.
- chown - changes the ownership of the file. For example, the chown mrhacker mypassword.txt command would give the mrhacker user ownership of the mypassword.txt file.
- cp - copies files and directories.
- dd - allows you to copy a file and convert it to another format during the copying process.
- grep - finds a pattern of text within a file or group of files. For example, you could find the characters "pwd" in file1.txt, file2.txt and file3.txt by entering the grep pwd file1.txt file2.txt file3.txt command.
- iwconfig / ifconfig - analogous to the ipconfig command. The ifconfig command is used to view and configure network interfaces. The iwconfig command is similar to the ifconfig command, but is restricted to wireless interfaces.
- ls - lists file and directory contents.
- mv - renames or moves a file.
- ps - provides a list of current processes running on the system.
- pwd vs. passwd - The pwd command displays the working directory, or the directory that you are currently in. On the other hand, the passwd command allows you to change the password of a user account.
- q - quits (exits) the vi editor. By itself, the q command will allow you to exit the editor if no changes have been made to the file. If you have made changes to the file and wish to keep the changes, enter wq. If you wish to discard the changes, enter q!.
- rm - removes a file.
- shutdown - turns off the computer. Adding the /h parameter to the command halts the shutdown and adding the /r parameter to the command reboots after shutdown.
- su/sudo - The su command allows you to log on as the superuser (root). The sudo command allows a regular user to execute commands as the superuser.
- vi - the text editor in Linux. To edit a file, enter the vi filename command.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems.

References:

80 useful Linux commands and utilities, <http://searchenterprise.linux.techtarget.com/tutorial/77-useful-Linux-commands-and-utilities>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.9 Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems

Question #12 of 99

Question ID: 1202793

You work in a centralized help desk that supports users around the country. You need to adjust a setting on a user's machine, but the user is hundreds of miles away. Which Windows utility can you use to accomplish this?

- X **A)** Proxy settings
- ✓ **B)** Remote Desktop Connection
- X **C)** None of these
- X **D)** Windows Virtual PC

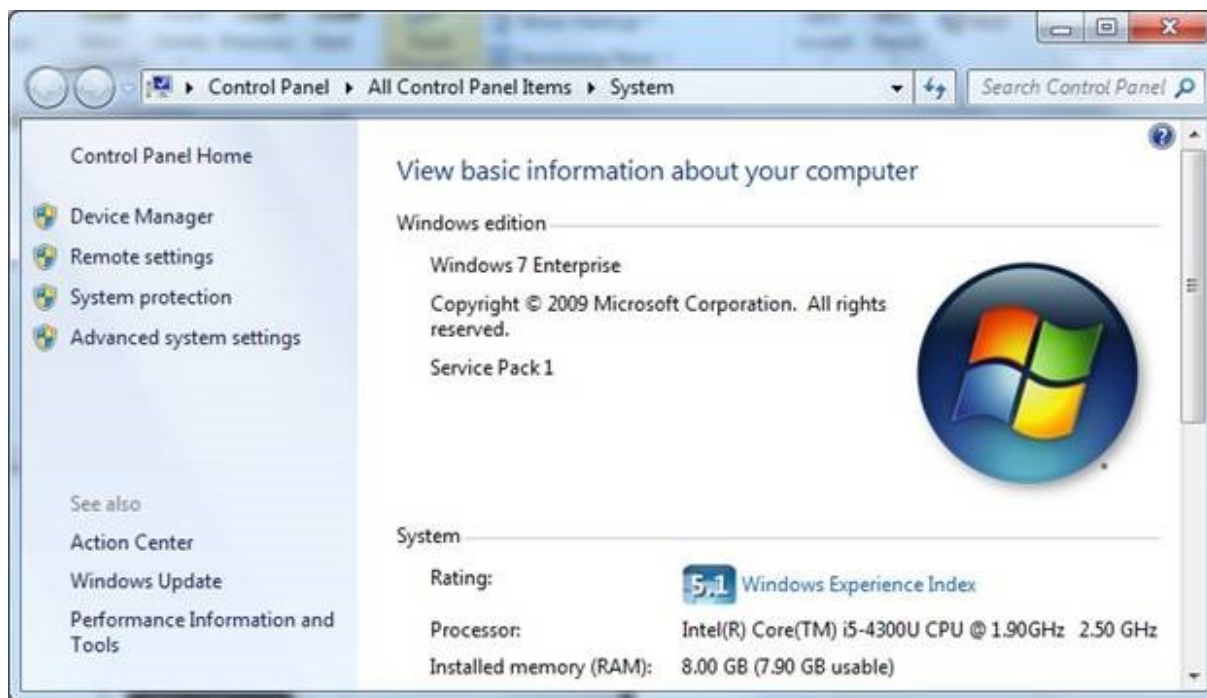
Explanation

You can use the Remote Desktop Connection utility to adjust the settings on a user's machine from hundreds of miles away.

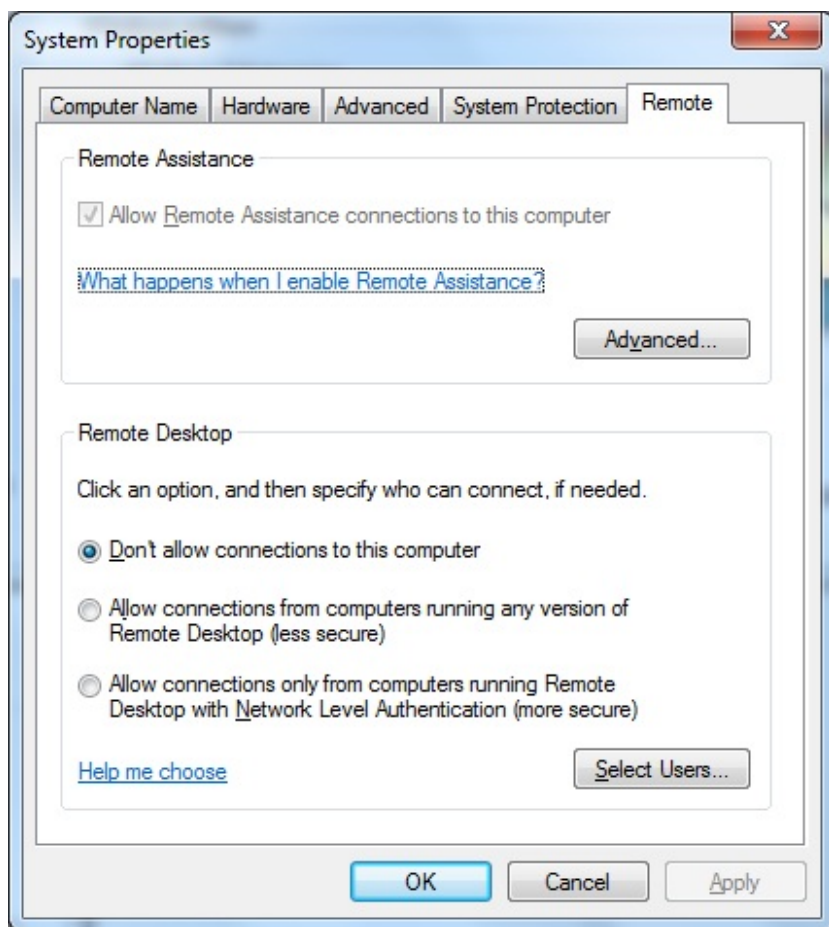
Windows Virtual PC is not correct. It allows you to run more than one operating system on a PC.

Proxy settings allow you to use a proxy server if your network has one, and is typically an intermediate connection between the public network and the internal private network. It is often used to speed Internet performance by caching Internet content locally. Then, machines on the internal network use that cached content instead of going to the Internet for it.

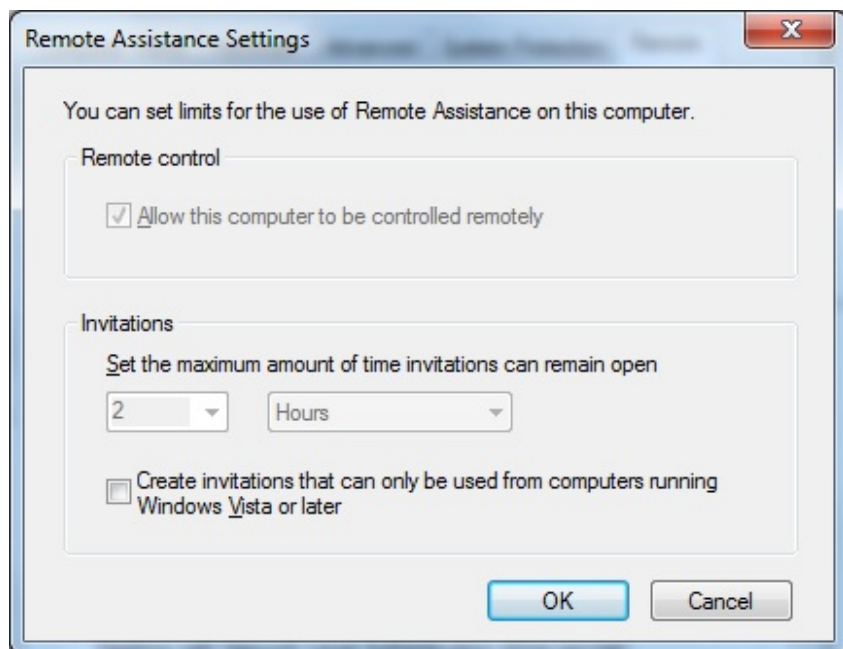
To allow a Remote Desktop Connection on the client computer, you should right-click Computer from the Start menu and select Properties. Select the Remote Settings option from the left-hand column, as shown in the following exhibit:



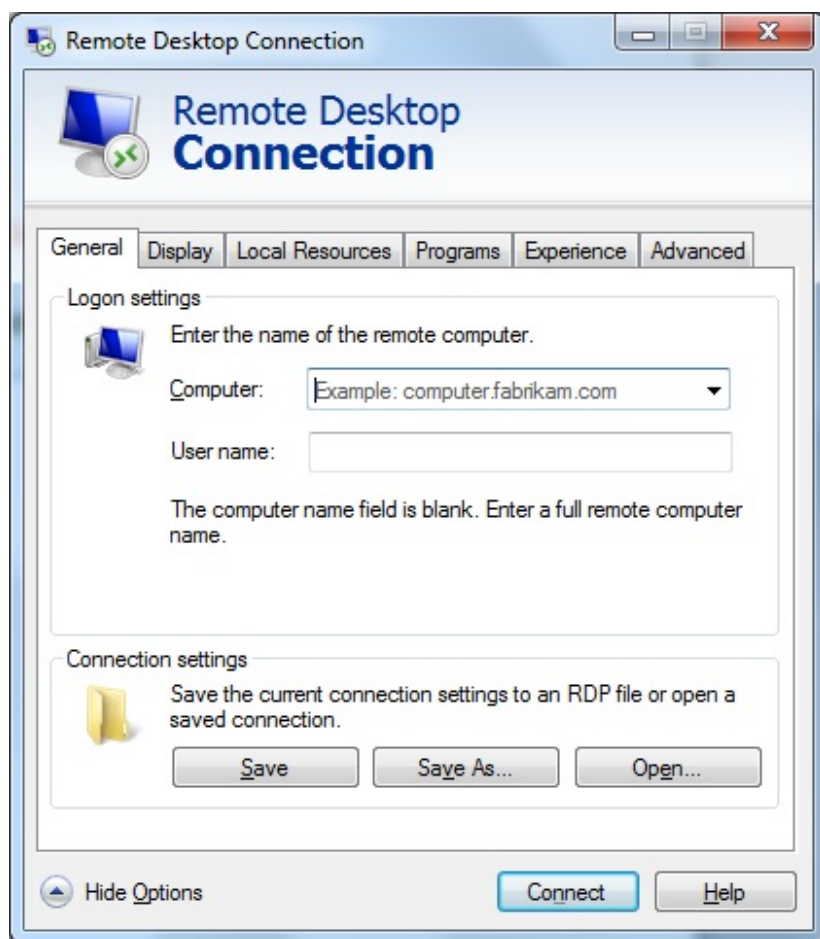
Check the box next to Allow Remote Assistance connection to the computer as shown in the following exhibit:



The Advanced button allows you to set limits as shown in the following exhibit:

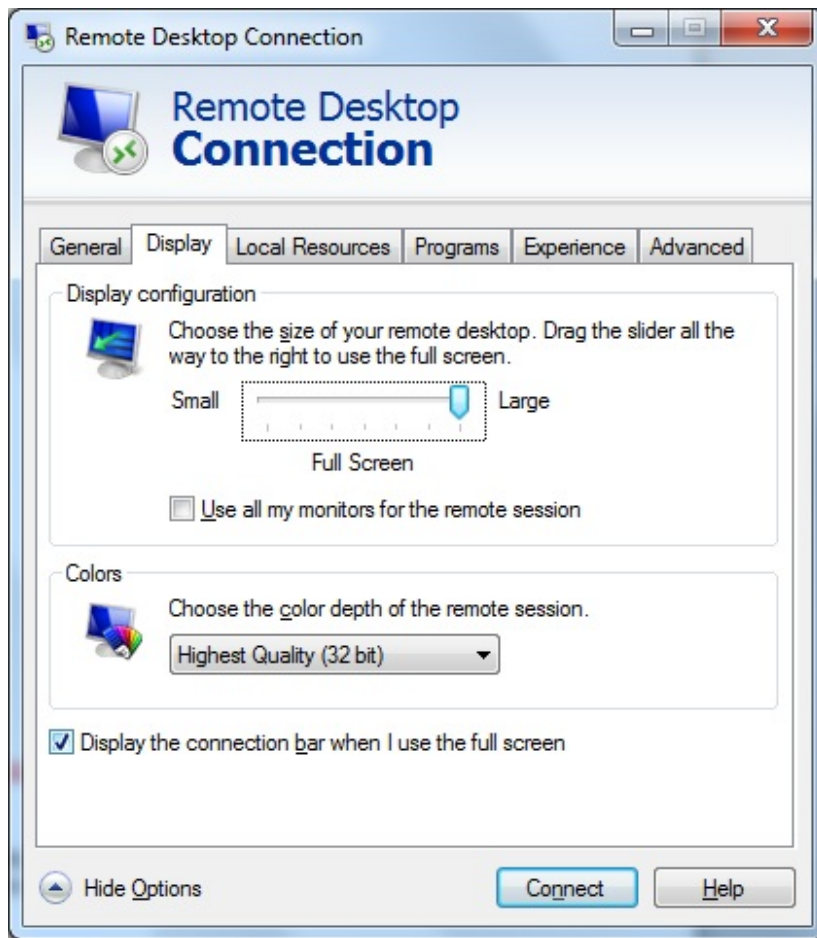


To establish a connection to the remote computer so that you can control it, type Remote Desktop Connection at the search prompt. The following window opens:

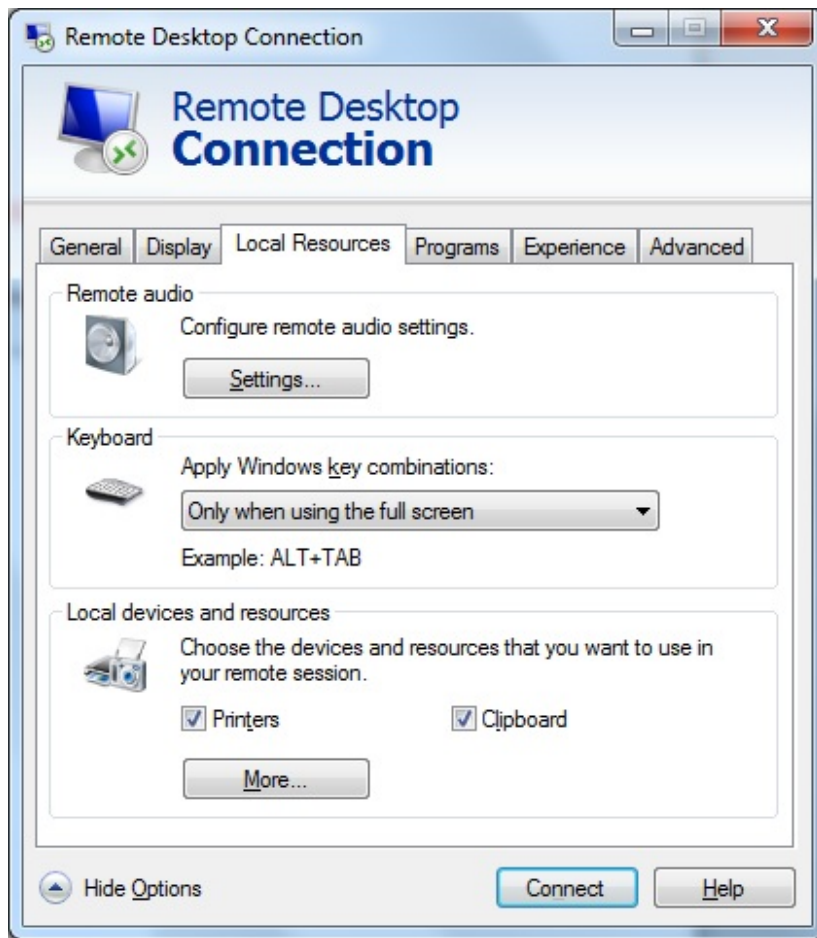


Enter the name of the computer you wish to connect to and the user name. You may save the connection settings or open a previously saved RDP file.

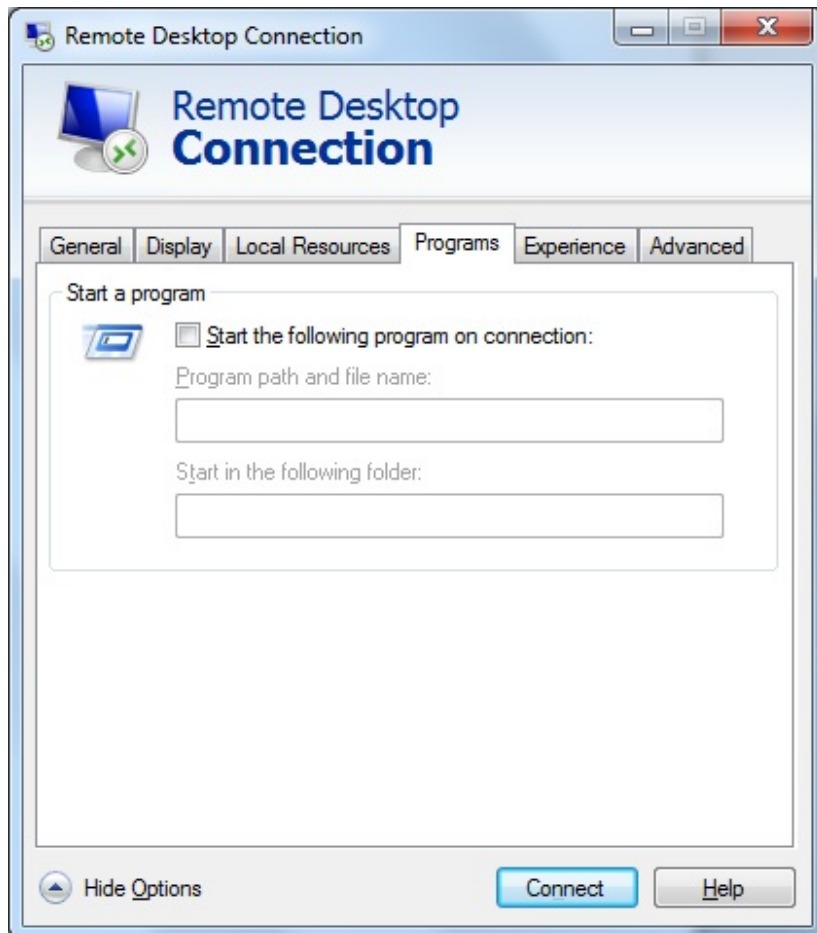
The Display tab allows you to customize the display settings on the remote computer, as shown in the following exhibit:



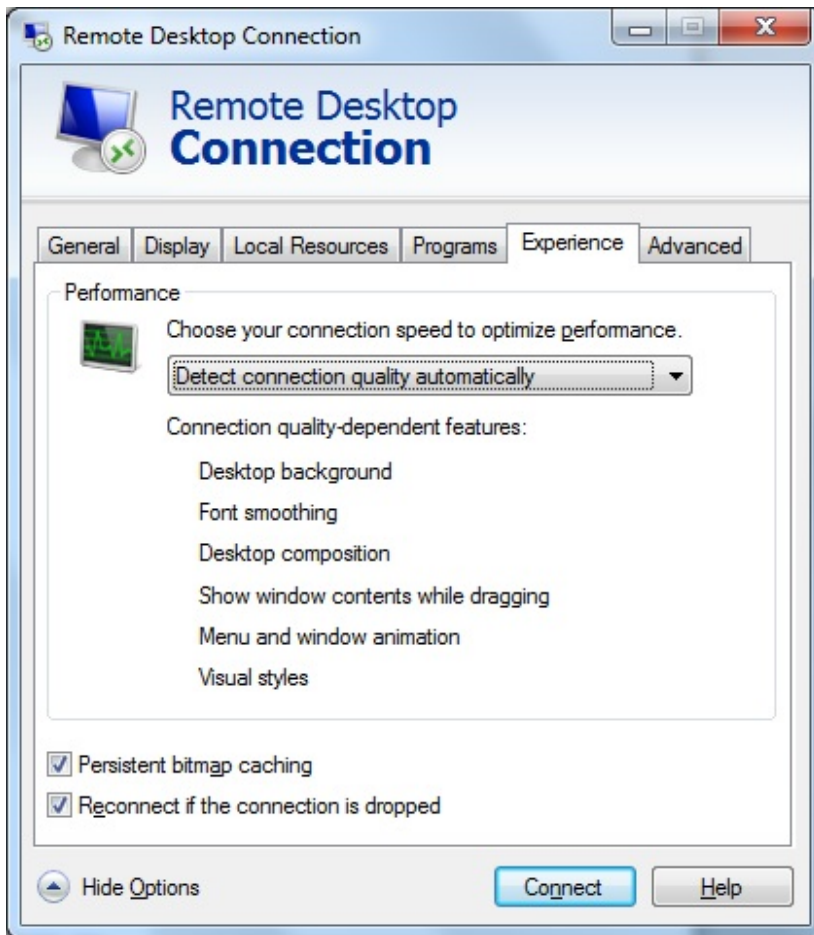
The Local Resources tab allows you to configure remote audio, keyboard, and local device settings, as shown in the following exhibit:



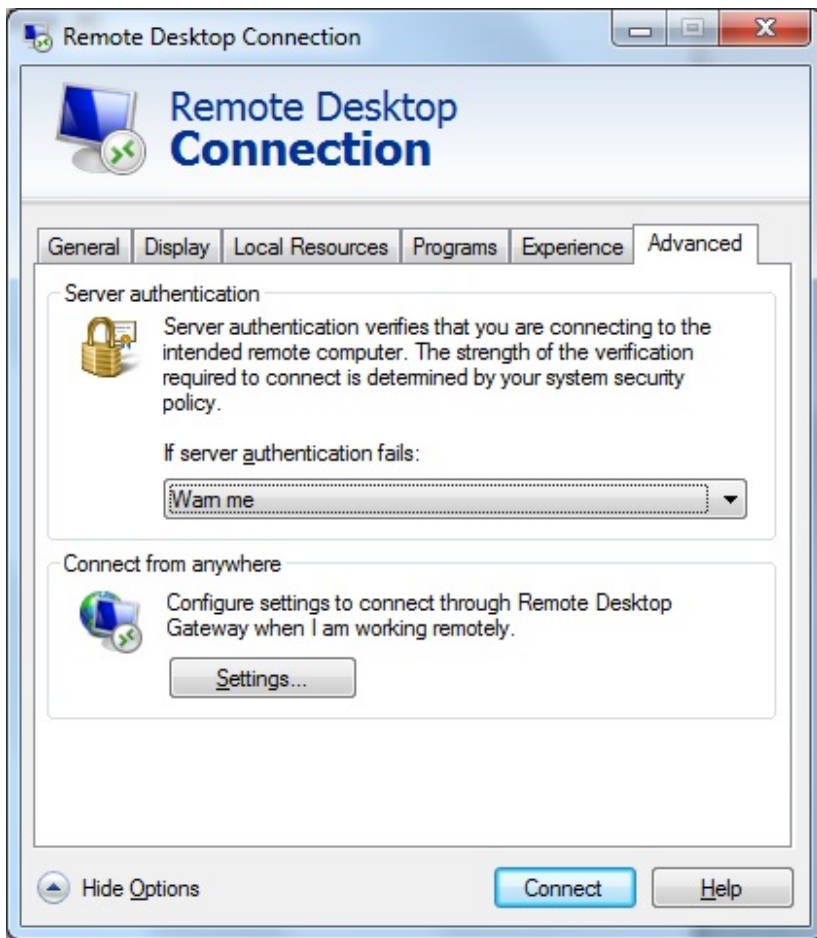
The Programs tab allows you to start a specific program, as shown in the following exhibit:



The Experience tab allows you to configure settings based on connection speed, as shown in the following exhibit:



The Advanced tab allows you to specify server authentication settings and remote gateway settings, as shown in the following exhibit:



It is not usually necessary to change the default settings unless there is a specific need.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

Connect to another computer using Remote Desktop Connection, <https://support.microsoft.com/en-us/help/17463/windows-7-connect-to-another-computer-remote-desktop-connection>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #13 of 99

Question ID: 1202775

You need to configure the UAC: Behavior of the elevation prompt for administrators group policy in a highly secure environment for Windows 7 computers. Which group policy setting should you use?

- X **A)** Prompt for consent
- X **B)** Prompt for credentials
- X **C)** Prompt for consent on the secure desktop
- ✓ **D)** Prompt for credentials on the secure desktop

Explanation

The User Account Control: Behavior of the elevation prompt for administrators is in the Admin Approval Mode group policy. The recommended setting for a highly secure environment is Prompt for credentials on the secure desktop.

Windows 7 and higher computers have six possible settings for the User Account Control: Behavior of the elevation prompt for administrators in Admin Approval Mode group policy. The possible settings are as follows:

- Prompt for consent for non-Windows binaries - the default setting that prompts for consent to run non-Windows executable files and applications.
- Prompt for consent - used in less secure environments where credentials are not required.
- Prompt for credentials - used in high security environments where credentials are required but the additional security of the secure desktop is not required.
- Prompt for consent on the secure desktop - used in less secure environments where credentials are not required but the additional security of the secure desktop is required.
- Prompt for credentials on the secure desktop - used in high security environments where credentials and the additional security of the secure desktop are required.
- Elevate without prompting - actually turns off UAC and should be used only on a domain controller or server for advanced users or server administrators.

User Account Control (UAC) is a feature of Windows 7 and higher that prevents applications from running in privileged mode even when an administrator is logged on.

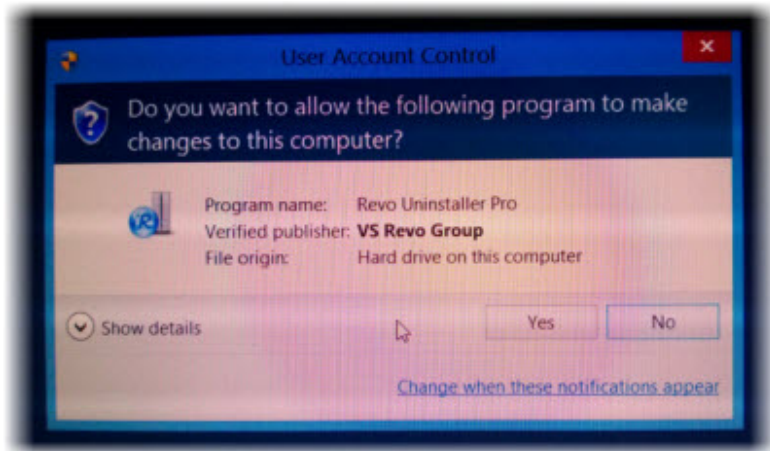
Comprehensive UAC support is not available in Windows 7 Starter, Windows 7 Home Basic, and Windows 7 Home Premium.

In Windows 8 and higher, you will access UAC by typing Change User Account Settings in the Search Charm space and changing the settings in the console as per your requirement. Windows 8 makes UAC easier to use and notifies users before making changes to a computer for Administrator settings. Every time an attempt is made to change or modify the system, UAC will interrupt the process and ask permission to proceed. If the user approves the request, then the change is made. Likewise, if the user denies the request, the change will not occur thus making the screen darken. These actions will trigger the UAC in Windows 8:

- Applications being installed or uninstalled
- Firewall Changes
- ActiveX Controls for installing drivers
- Windows Update installing and configuring
- Adding, removing or changing user accounts and modifying their type.
- User files and folders - accessing, viewing or changing another user's files

- Parental Controls
- Task Scheduler
- Backup and Restoring
- Changing UAC settings

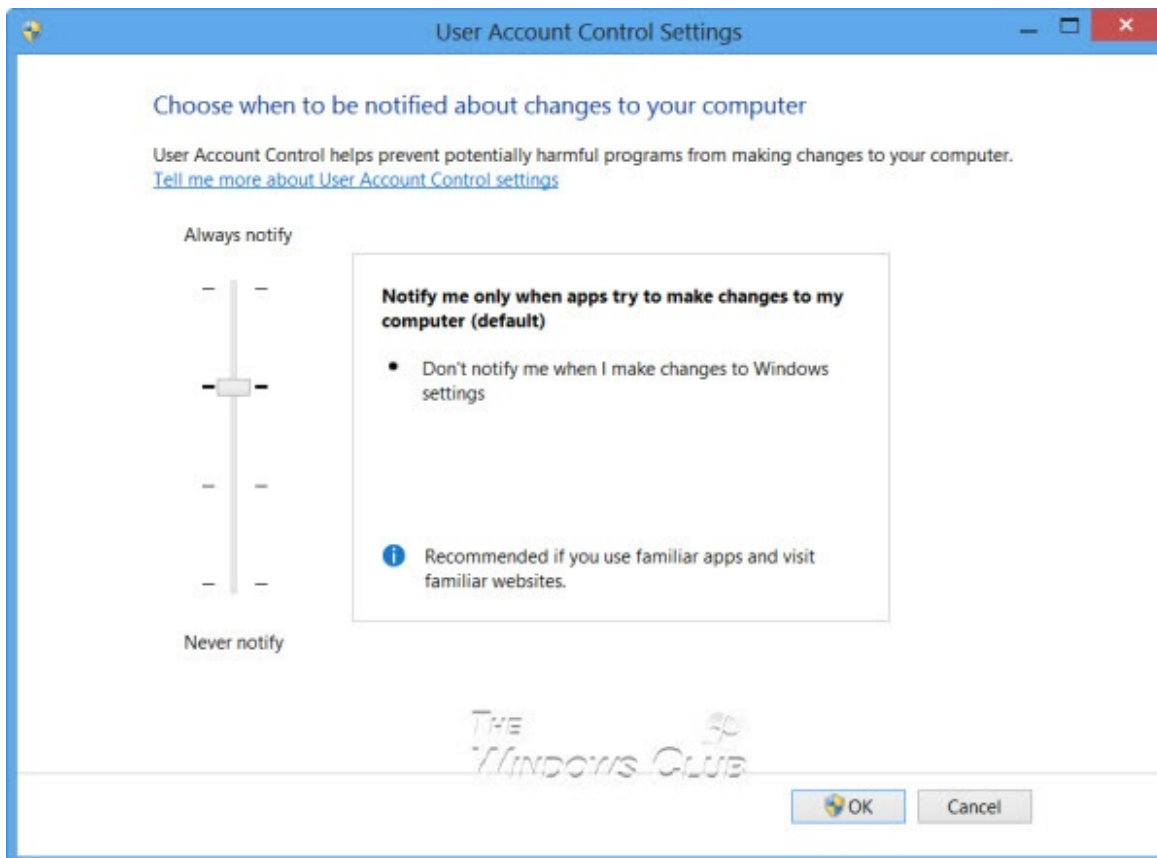
The default settings is Notify me only when apps try to make changes to my computer. The screen will darken temporarily and asks for your permission to turn off the Aero interface. It will literally become transparent which is the Secure Desktop mode. When the darkening occurs, it resembles the following exhibit:



UAC elevation prompts are application-specific and color-coded so that the end user can identify security breaches and protect the systems data. The following exhibit shows the UAC credentials prompt:



Changing UAC settings in Windows 8 will require you to open the User Accounts applet in Control Panel. Then select the Change User Account Control settings option, which will open the User Account Control Settings dialog box, as shown in the following exhibit:



Use the vertical slider to change the UAC setting. The settings that you can use are:

- Never notify
- Notify me only when programs try to make changes to my computer (do not dim my desktop)
- Default - Notify me only when programs try to make changes to my computer
- Always notify me

To turn off UAC on a Windows computer, you should use the User Account feature in Control Panel or the msconfig tool. Only administrators can disable UAC.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

User Account Control in Windows 7 Best Practices, [http://technet.microsoft.com/en-us/library/ee679793\(Ws.10\).aspx](http://technet.microsoft.com/en-us/library/ee679793(Ws.10).aspx)

User Account Control Step-by-Step Guide, [https://technet.microsoft.com/en-us/library/cc709691\(Ws.10\).aspx](https://technet.microsoft.com/en-us/library/cc709691(Ws.10).aspx)

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #14 of 99

Question ID: 1176410

You need to view the processes running on a Linux system. Which command should you use?

- ✓ **A) ps**
- X **B) chmod**
- X **C) grep**
- X **D) apt-get**

Explanation

The ps command provides a list of current processes running on the system.

The grep command allows you to search for a pattern of text within one or more files. For example, you could find the characters "pwd" in file1.txt, file2.txt and file3.txt by entering the grep pwd file1.txt file2.txt file3.txt command.

The apt-get command allows you to manage packages within Ubuntu.

The chmod command allows you to change permissions on a file. The basic syntax is chmod user=PermissionList filename. The user parameter can be u for you, g for the group, or o for other. The permission list parameters include r for read, w for write, x for execute, and - for no access. For example, the chmod u=rwx,g=r-x, o=r-- myspecialfile command would give the user read, write and execute access, the group read and execute access, and others read access only.

For the A+ exam, you must understand the following common basic Linux commands:

- apt-get - allows you to work with the Advanced Packaging Tool and install packages (applications) in Ubuntu, which is a Debian-based distribution.
- cd - changes directory. It is similar to the Windows cd command. For example, the cd / moves you to the root directory, and cd.. moves you to the parent directory.
- chown - changes the ownership of the file. For example, the chown mrhacker mypassword.txt command would give the mrhacker user ownership of the mypassword.txt file.
- cp - copies files and directories.
- dd - allows you to copy a file and convert it to another format during the copying process.
- grep - finds a pattern of text within a file or group of files. For example, you could find the characters "pwd" in file1.txt, file2.txt and file3.txt by entering the grep pwd file1.txt file2.txt file3.txt command.
- iwconfig / ifconfig - analogous to the ipconfig command. The ifconfig command is used to view and configure network interfaces. The iwconfig command is similar to the ifconfig command, but is restricted to wireless interfaces.
- ls - lists file and directory contents.
- mv - renames or moves a file.
- ps - provides a list of current processes running on the system.
- pwd vs. passwd - The pwd command displays the working directory, or the directory that you are currently in. On the other hand, the passwd command allows you to change the password of a user account.
- q - quits (exits) the vi editor. By itself, the q command will allow you to exit the editor if no changes have been made to the file. If you have made changes to the file and wish to keep the changes, enter wq. If you wish to discard the

changes, enter q!.

- rm - removes a file.
- shutdown - turns off the computer. Adding the /h parameter to the command halts the shutdown and adding the /r parameter to the command reboots after shutdown.
- su/sudo - The su command allows you to log on as the superuser (root). The sudo command allows a regular user to execute commands as the superuser.
- vi - the text editor in Linux. To edit a file, enter the vi filename command.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems.

References:

80 useful Linux commands and utilities, <http://searchenterpriselinux.techtarget.com/tutorial/77-useful-Linux-commands-and-utilities>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.9 Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems

Question #15 of 99

Question ID: 1202790

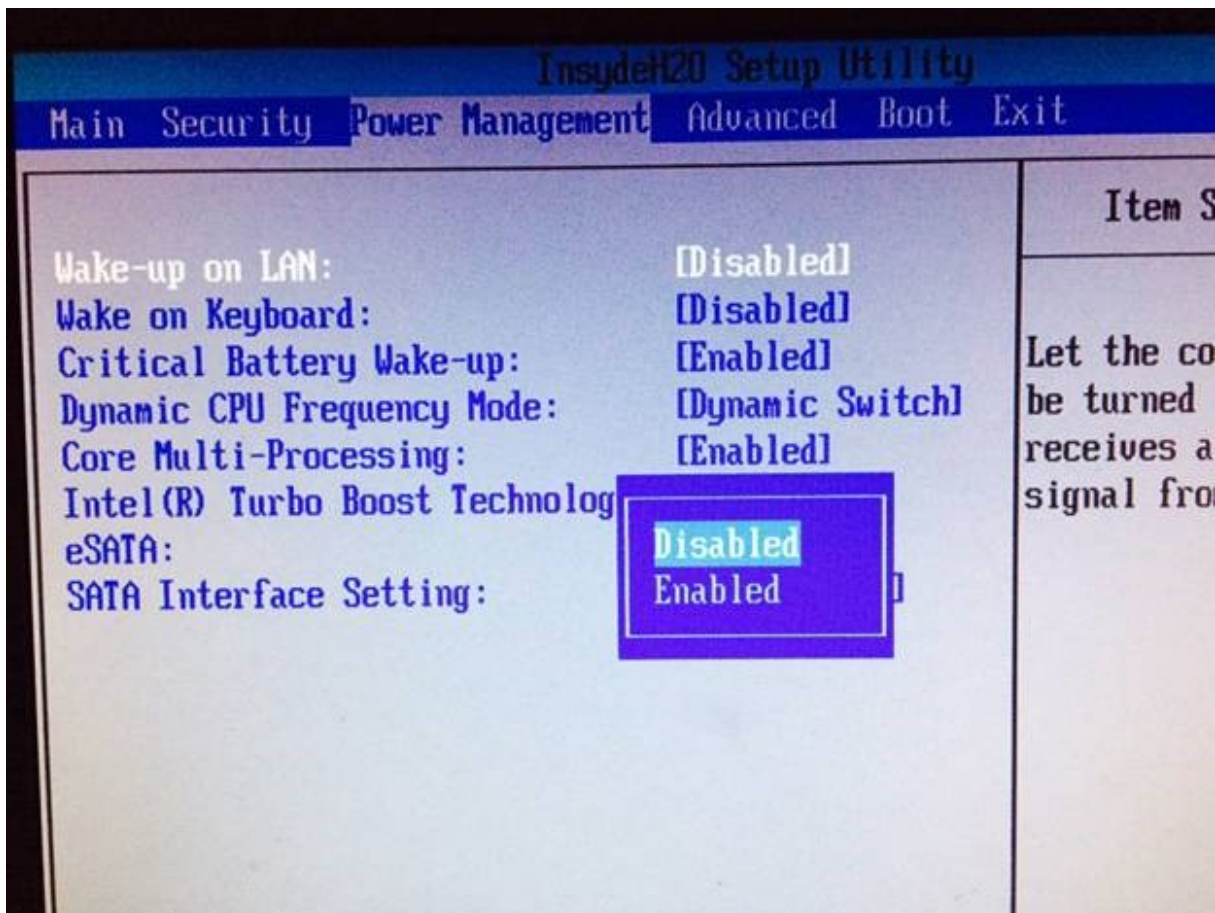
You need to enable Wake on LAN. Where would you go first to do this?

- ✓ **A) In the BIOS**
- X **B) On the router**
- X **C) In Device Manager**
- X **D) On the NIC**

Explanation

Wake on LAN is enabled initially in the BIOS. Wake on LAN is a feature that ensures a computer can resume from a low power state when it receives a network packet telling it to do so.

While the network interface card (NIC) must support Wake on LAN, Wake on LAN is actually enabled in the BIOS. The following exhibit is an example of the Wake on LAN feature in a computer's BIOS:



After initially enabling Wake on LAN in the BIOS, you can use Device Manager to configure the different operating system parameters. The Device Manager can also be used to update device drivers. To update a device driver in Device Manager, you should right-click the device, select Properties, and click the Driver tab.

There are other Windows network features and components you should be familiar with for the A+ exam. These features include proxy settings, firewall settings, alternate IP address settings, and network card properties.

Proxy settings identify a proxy server on the local network that is used to access the Internet. All Internet connections are routed through this proxy server. The proxy server utilizes Network Address Translation (NAT) to translate communication between the Internet and the private network.

Firewall settings are configured in the Windows Firewall console, which is located in Control Panel. This software protects the local computer from remote connections that can harm the computer. In Windows 7 and above, Windows Firewall has separate settings for private and public networks. When configuring a firewall, you should configure rules and exceptions. A rule is a configuration setting that filters traffic based on port, application, or service. Rules can allow or deny connections. Exceptions are configured to override the rules. For example, you may have configured a rule that does not allow a particular service. Later, if someone needs to use that service to connect to your computer, you could configure an exception to allow only that user's connection. On the General tab of Windows Firewall, you can enable or disable Windows Firewall. Keep in mind that disabling Windows Firewall could result in security issues. On the General tab, you can also select the Don't Allow Exceptions option, which is recommended when in an unsecure location.

An alternate IP address is particularly useful to ensure that you can connect to a network in the event that the first choice for connection is not available. For example, you could have dynamic addressing as your first option. This would only work if DHCP were operational on the network. You could then configure an alternate static IP address configuration that would

be used if the DHCP server could not be contacted. On the Alternative Configuration tab there are two types of addressing allowed: Automatic Private IP Addressing (APIPA) or User Configured. The APIPA option implements an address in the APIPA range. The User Configured requires that you enter a static IP address, subnet mask, default gateway, and DNS server.

Network card properties can be used to optimize the performance of the network card. These properties that you should understand include duplexing, speed, Power over Ethernet (PoE), and Quality of Service (QoS).

Duplexing is how communication takes place. There are three duplexing options: full duplexing, half duplexing, and auto duplexing. Full duplexing allows a network card to send and receive at the same time. Half duplexing allows a network card to send or receive in only one direction at a time. Full-duplex mode is twice as fast as half-duplex mode. Auto duplexing means that the network card will configure itself to the mode of the network device that is operating at the lowest capacity.

The speed of the network card is different from duplexing. The speed is determined by the media used on the network. Make sure that the network card is compatible with the network on which it will be running. A network card can only operate at the highest speed allowed by the network. Even if the network card is capable of a high speed, it cannot run at that speed if the cable is not capable of it.

PoE allows an Ethernet connection to provide both Ethernet communication and electrical power. QoS allows an administrator to control the flow of traffic based on priorities. This ensures that more critical communication is given preference if network bandwidth is limited.

QoS is a set of networking technologies and tools that allows the network administrator to deliver service and performance levels throughout the network. Several factors that can affect performance include uptime, bottlenecks, bandwidth, latency, and packet loss.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

Access Your Computer Anytime and Save Energy with Wake-on-LAN, <http://lifehacker.com/348197/access-your-computer-anytime-and-save-energy-with-wake+on+lan>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #16 of 99

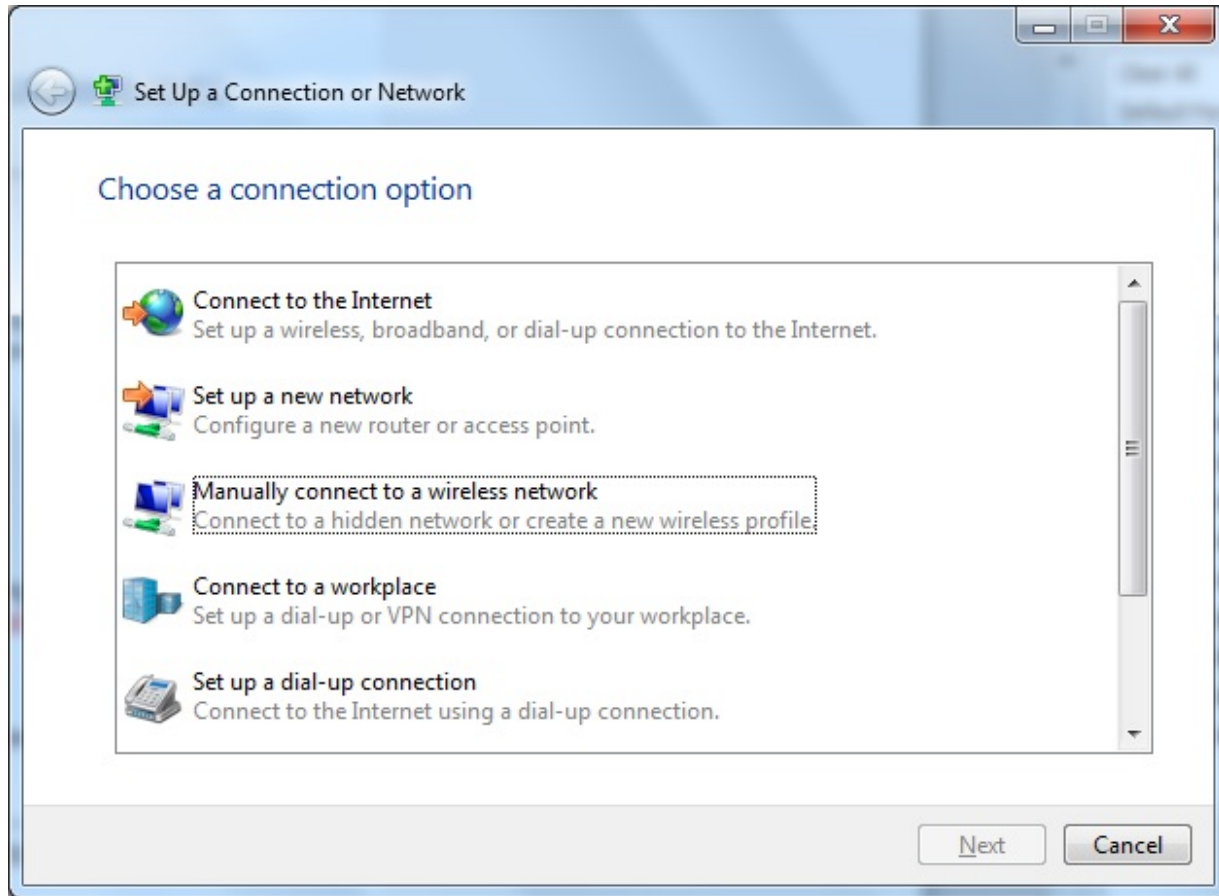
Question ID: 1176404

You need to establish a network connection on a Windows computer using the Setup a Connection or Network applet. Which one of these is NOT a valid connection type?

- X **A)** Dial-up
- X **B)** Wireless
- X **C)** VPN
- ✓ **D)** Line of Sight

Explanation

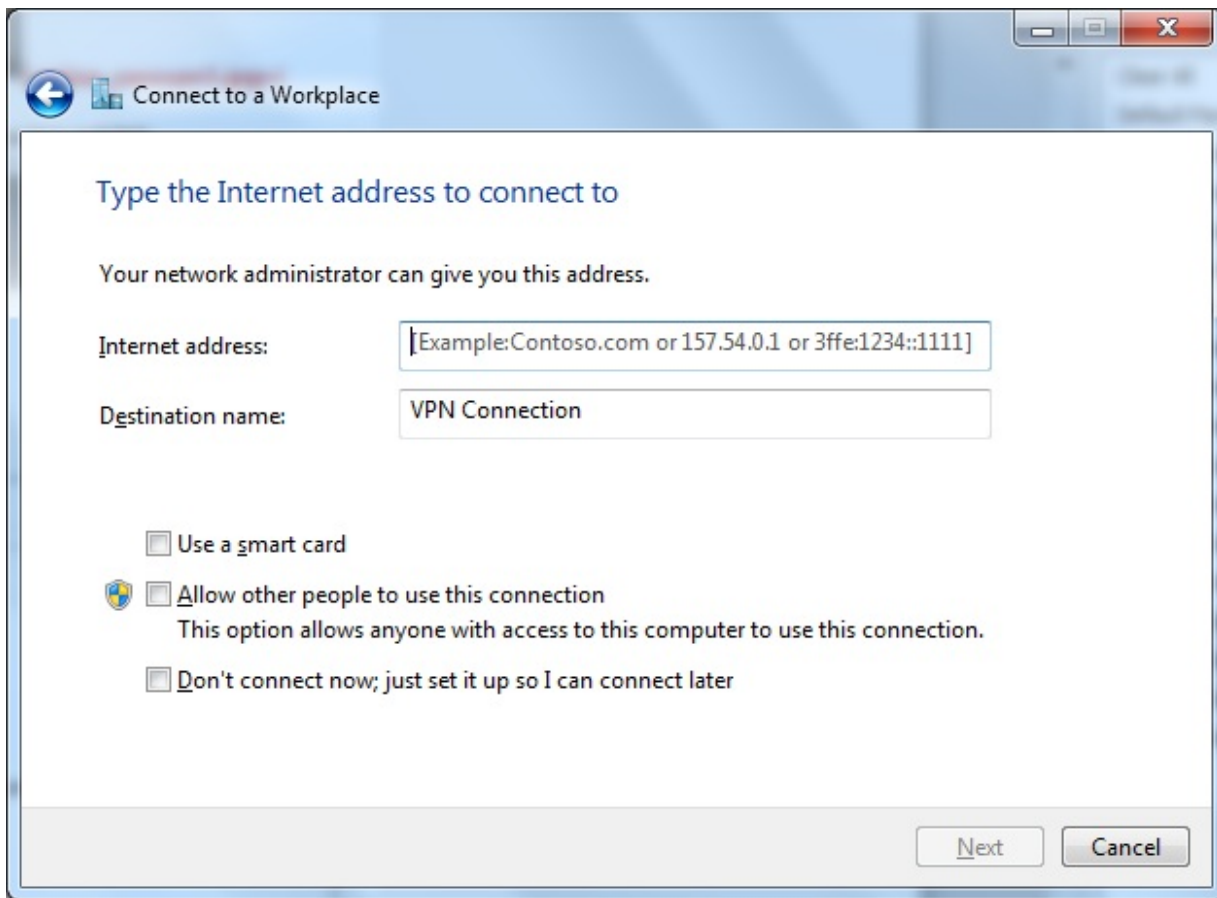
When you need to establish a network connection using the Setup a Connection or Network applet, Line of Sight is not a valid connection type. The Setup a Connection or Network applet is shown in the following exhibit:



Valid connection types using this applet include VPN, dial-up, broadband, wireless, and ad hoc.

To connect to a VPN, double-click the Connect to a workplace option. Then, select the appropriate option, depending on whether you want to use the Internet to connect or want to dial in to the network. For this example, we will be using the Internet to connect.

Next, enter the Internet address and destination name, as shown in the following exhibit:



Connect to a Workplace

Type the Internet address to connect to

Your network administrator can give you this address.

Internet address: [Example: Contoso.com or 157.54.0.1 or 3ffe:1234::1111]

Destination name: VPN Connection

☐ Use a smart card

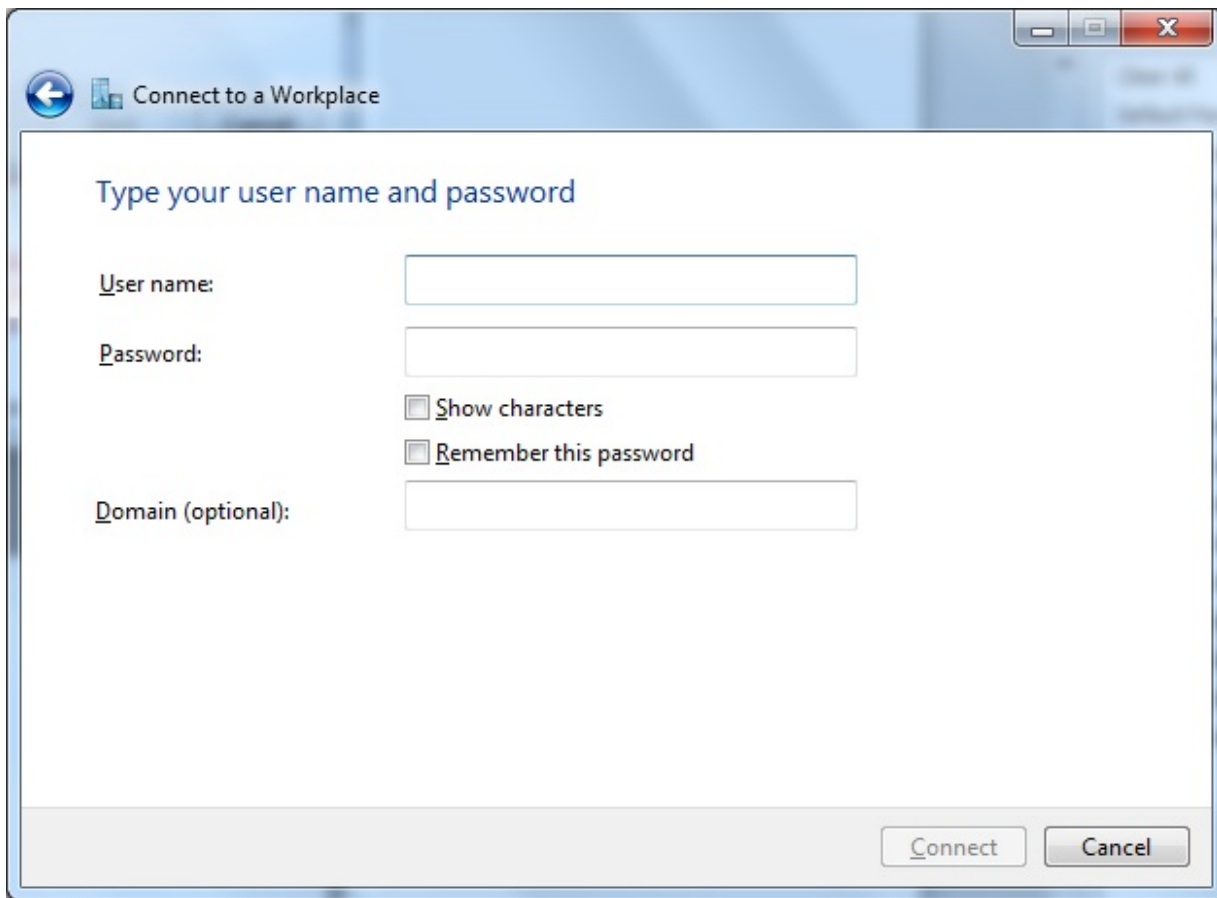
☐ Allow other people to use this connection
This option allows anyone with access to this computer to use this connection.

☐ Don't connect now; just set it up so I can connect later

Next Cancel

If you need to use a smart card to connect, select the Use a smart card option. If other users who have access to the computer need to use this connection, select the Allow other people to use this connection. If you simply want to set up the connection but not connect, select the Don't connect now; just set it up so I can connect later option.

Next, enter your login credentials (supplied by the administrator) as shown in the following exhibit:



A Windows-style dialog box titled "Connect to a Workplace". It contains a blue header bar with a back arrow icon and the title. The main area is white and contains the text "Type your user name and password". Below this, there are three input fields: "User name:", "Password:", and "Domain (optional):". To the right of the "Password:" field are two checkboxes: "Show characters" and "Remember this password". At the bottom right, there are two buttons: "Connect" and "Cancel".

Connect to a Workplace

Type your user name and password

User name:

Password:

☐ Show characters

☐ Remember this password

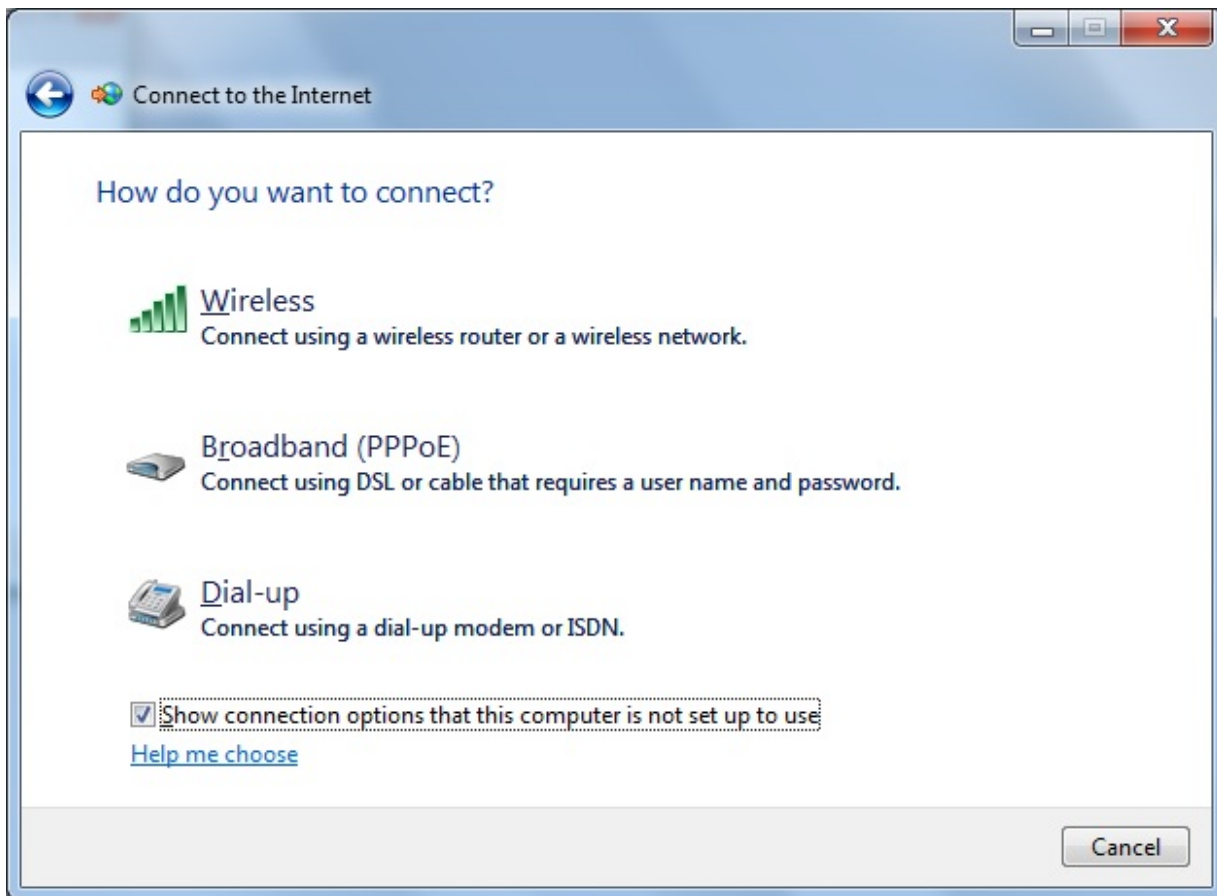
Domain (optional):

Connect Cancel

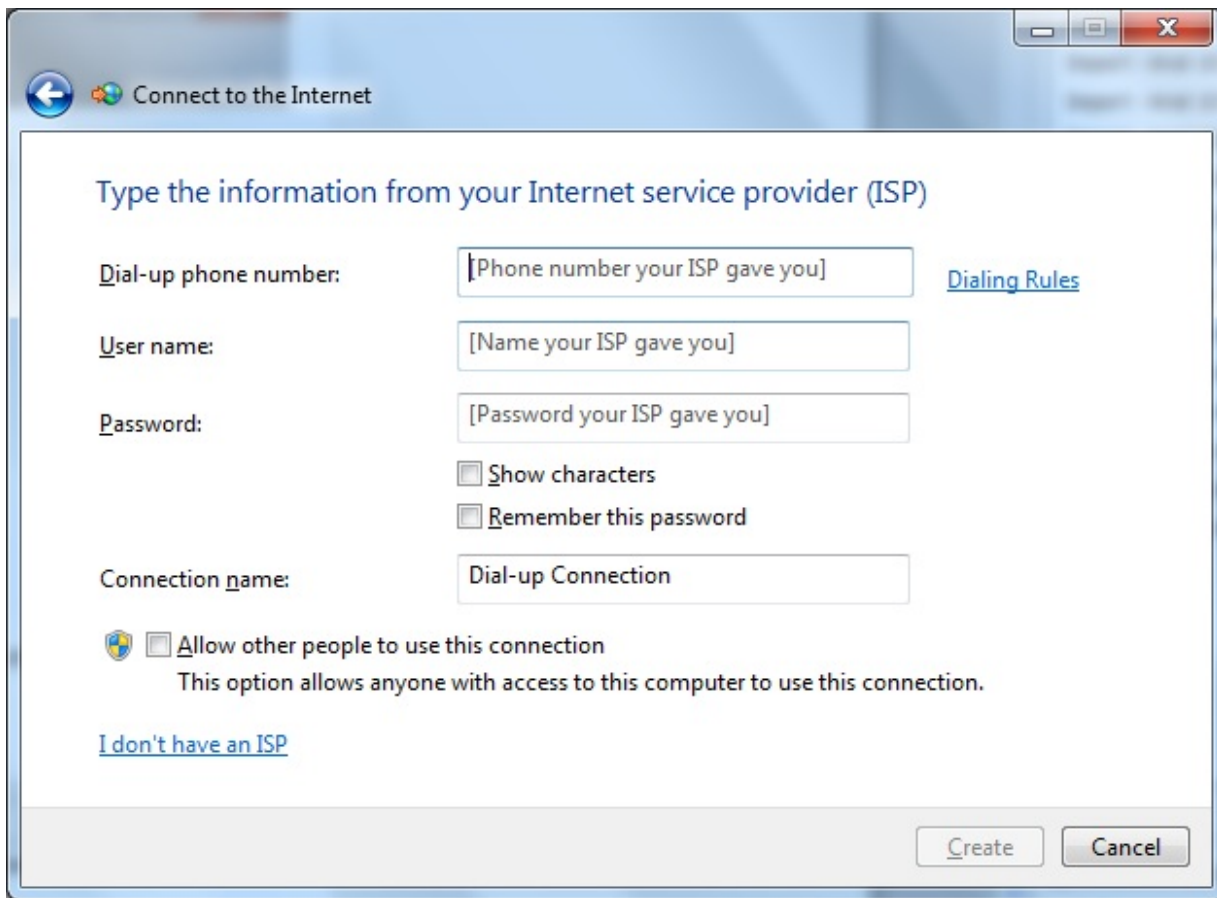
You should enable the Remember this password option if you do not want to have to re-enter the password with each login. Click Connect. The login credentials you entered will then be verified. From this point forward, the connection will be shown in the network connections interface, as shown in the following exhibit:



From the Setup a Connection or Network dialog box, you can also configure other Internet connection types. To set up a dial-up connection, select the Connect to the Internet option and then select the Dial-up option, as shown in the following exhibit:



On the next screen, enter the dial-up phone number, user name, password, and connection name, as shown in the following exhibit:



If you do not want to re-enter your credentials with each login, select the Remember this password option. If other users on the computer need to use this dial-up connection, select the Allow other people to use this connection option. You can also configure the dialing rules using the Dialing Rules option.

Windows will attempt to make the connection, and a successful connection will be displayed.

To connect to a wired or wireless (including WWAN) network, click the appropriate Network Notification icon located in the lower right-hand corner of the desktop. For Wired networks, the icon will resemble a computer, as shown in the following exhibit:



For wireless networks, the icon will resemble a signal grid, as shown in the following exhibit:



Then you should select the network you want to connect to from the list of available networks and supply any requested credentials.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

How to Connect to a VPN in Windows, <http://www.howtogeek.com/134046/how-to-connect-to-a-vpn-in-windows/>

Create a Dial-Up Networking connection on Windows 7, <https://support.earthlink.net/articles/dialup/create-a-dial-up-networking-connection-on-windows-7.php>

How to Connect to Wireless Networks in Windows 7, <http://www.digitalcitizen.life/how-connect-wireless-networks>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #17 of 99

Question ID: 1176376

You launch Performance Monitor in Windows 7 Professional. Which components can you monitor using this tool? (Choose all that apply.)

- ✓ **A)** Processor
- ✓ **B)** Disk
- ✓ **C)** Network
- ✓ **D)** Memory

Explanation

You can monitor a computer's processor, memory, network, and disk performance using Performance Monitor in Windows 7, Windows 8, Windows 8.1, and Windows 10. Performance Monitor is used to display real-time performance operation.

For the A+ exam, you need to be familiar with the following Windows Administrative applications or tools:

- Computer Management - This console includes Device Manager, Event Viewer, Shared Folders, Performance/Performance Logs and Alerts (depending on the operating system), and possibly Local Users and Groups and Task Scheduler. This is the console you would open for most computer management tasks.
- Device Manager - This console can be accessed in many different manners, but is usually accessed via the Computer Management console or Control Panel. It lists all installed hardware and allows you to add and remove hardware, update drivers, and reconfigure hardware.
- Users and Groups - For computers in a workgroup environment, this console is called Local Users and Groups. For computers in a domain environment, the console used is Active Directory Users and Computers. In either network environment, this is where you configure user and group accounts, including password settings. In Windows 7 deployments, you must have at minimum Windows 7 Professional to access the Local Users and Groups console. In Windows 8, this feature is only available in the Pro version.
- Local Security Policy - You can edit the local security policy by running secpol.msc. This allows you to configure local security settings, including password policies and audit policies. For Windows 7, the local security policy can only be

configured in Windows 7 Professional or higher. For Windows 8, this feature is only available in the Pro or Enterprise version.

- Performance Monitor - While Performance Monitor differs depending on the operating system, its purpose is the same: to use performance counters to gather performance statistics. Usually two tools are tied together: System Monitor and Performance Logs and Alerts.
- Services - This console can be opened by running services.msc at the Run command line. It can also be accessed in the Computer Management console or Administrative Tools. It is used to start, stop, or pause services.
- System Configuration - This tool can be accessed by running msconfig at the command line. This tool includes five tabs: General, Boot, Services, Startup, and Tools. It is mainly used to troubleshoot startup issues.
- Task Scheduler - This tool allows you to schedule jobs to run. The jobs you can run include backup tasks, disk defragmentation tasks, and other maintenance jobs. You can schedule the jobs to run once, daily, weekly, monthly, at startup, or at logon.
- Component Services - This tool is in Administrative Tools and is used to manage component services.
- Data Sources - This tool is also located in Administrative Tools and is used to manage how a computer connects to a data provider.
- Print Management - This tool is available in Windows 7 or higher. It allows you to manage printers and print servers.
- Windows Memory Diagnostics - This tool is available in Windows 7 and higher, and is used to check for memory problems. It requires a system reboot. At the reboot, the memory test will run.
- Windows Firewall - This tool is accessed from the Control Panel and is used to configure firewall settings on the local computer.
- Advanced Security - This part of Windows firewall is available in Windows 7 and higher. Windows Firewall with Advanced Security is more powerful than Windows Firewall and can manage security associations and security rules.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

Performance Monitor, http://www.hexagora.com/en_dw_davperf.asp

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #18 of 99

Question ID: 1202781

You need to resize a disk partition to increase the storage capacity. Which operating system feature should you use?

X **A) MSINFO32**

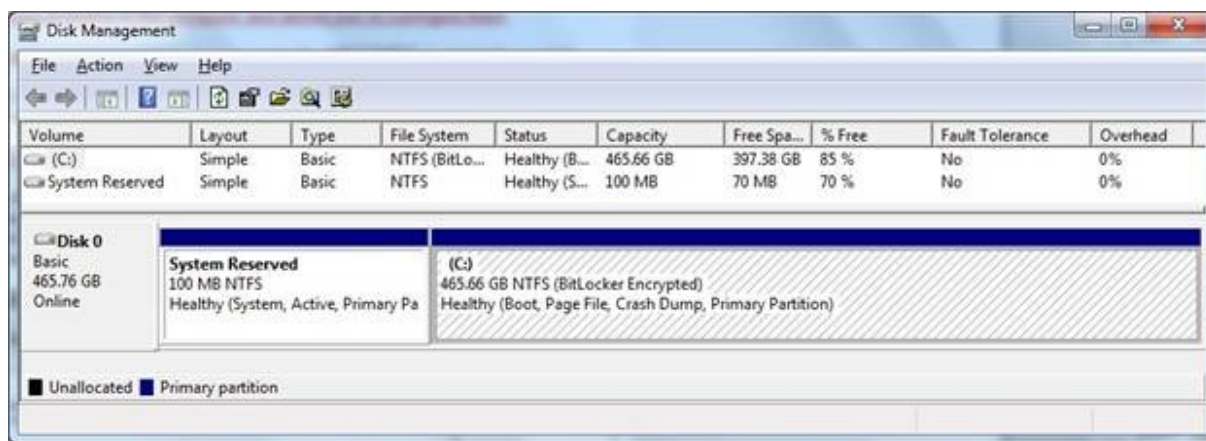
- ✓ **B) Disk Management**
- X **C) Recovery Console**
- X **D) MSConfig**

Explanation

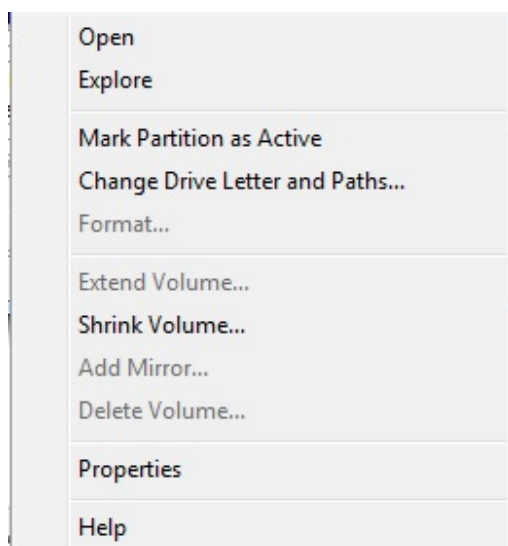
To resize a disk partition to increase the storage capacity, use Disk Management. Disk Management displays the disks available in the computer and allows you to configure them.

None of the other options can be used to increase storage capacity. MSCONFIG is primarily used to diagnose startup issues. MSINFO32 provides several system information tools. The Recovery Console allows you to restore the computer to factory settings.

The Disk Management utility is shown in the following exhibit:



If you right-click a partition, you will see a menu similar to the following:



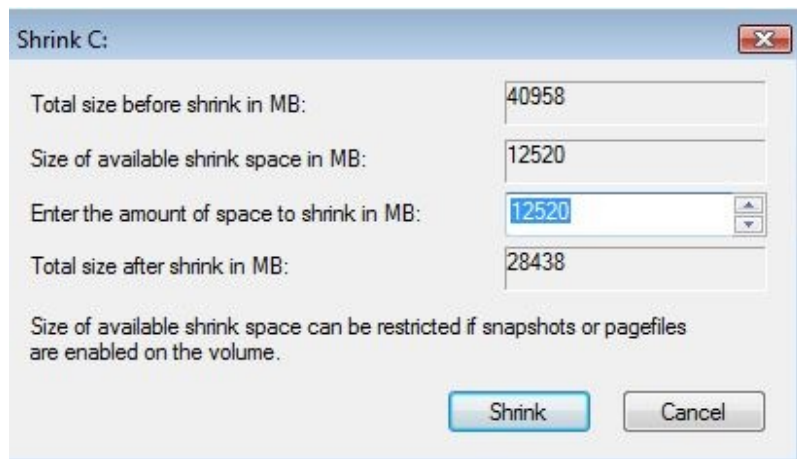
This tool displays information about each drive, including layout, type, file system, status, capacity, free space, % free, fault tolerance, and overhead. The Layout column lists the type of partition, such as simple, mirror, spanned, and striped. The Type Drive status column lists the status of the drive as healthy or unhealthy and gives other information, such as the type of files on the drive.

For the A+ exam, you must understand how to perform the following Disk Management console tasks: mounting, initializing, extending partitions, splitting partitions, shrinking partitions, assigning or changing drive letters, adding drives, and adding arrays.

- **Mounting** - Flash drives and external drives typically auto mount and assign a drive letter. If you need to mount a drive, right-click the partition, and select **Change Drive Letter and Paths**. In the dialog box that opens, select **Add**. In the **Add Drive Letter or Path** dialog box, select the **Mount in the following empty NTFS folder** option and enter the folder path or browse to it.
- **Initializing** - When you add a new physical drive, it will be visible in Disk Management as **Unknown and Not Initialized** in the graphic display. Right-click the drive and select **Initialize Disk**. You can select whether to use the master boot record (MBR) or GUID partition table (GPT) partition style.
- **Extending partitions** - To extend a partition (add space to it), right-click the partition, and select **Extend Volume**.
- **Splitting partitions** - To split a partition, you would first have to shrink the partition. Once you have completed the steps to shrink the partitions, you will have new unallocated space. Right-click the unallocated space, and select the type of new volume you want to create.

A simple volume is the most common type of volume. A spanned volume will consist of space across multiple drives that will appear as a single disk. A striped volume will stripe data across two drives like RAID 0. A mirrored volume will write data to one drive and then mirror (copy) that data to another drive like RAID 1. A RAID-5 volume must have at least three drives.

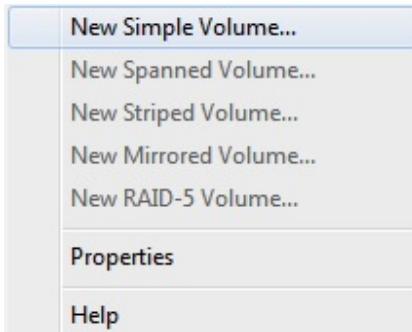
- **Shrink partitions** - To shrink a partition, right-click the partition, and select the **Shrink Volume** option. Then change the size of the volume, as shown in the following exhibit:



- **Assigning/changing drive letters** - You can change a volume's drive letter by right-clicking the drive, selecting the **Change Drive Letter and Paths** option, and selecting from the available drive letters.
- **Adding drives** - When you add a new drive, Disk Management will see it as a new unformatted drive. You will first need to format the drive, create the appropriate partition(s) on the drive, and assign a drive letter.
- **Adding arrays** - To add an array, right-click the unallocated space, and select the appropriate option from the list, as shown earlier in the **Splitting partitions** section. Simple volumes only use space from one drive. Spanned volumes use space from multiple drives. Striped and mirrored volumes use space from two drives. RAID-5 volumes use space from three or more drives.

Storage spaces are available in Windows 8 and above. They allow you to pool drives together to form a single virtual drive.

Adding drives requires that you physically install the drive and then use the Disk Management tool to create and format the volume. To do this, right-click the volume, and select the appropriate option, such as New Simple Volume. This will create the volume and format it with the filesystem you select, as shown in the following exhibit:



For the A+ exam, you will need to understand how to perform all of these tasks. Subject matter experts suggest that you spend time actually performing these tasks to ensure that you fully understand the steps required to complete them.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

How To Manage Partitions on Windows Without Downloading Any Other Software <http://www.howtogeek.com/101862/how-to-manage-partitions-on-windows-without-downloading-any-other-software/>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #19 of 99

Question ID: 1176339

You want to upgrade a Windows 7 Business computer to Windows 8 Professional. You need to ensure that all the computer hardware is compatible with Windows 8. Which tool should you use?

- X **A)** Microsoft Assessment and Planning Toolkit
- X **B)** Windows 7 Upgrade Assistant
- X **C)** Windows Easy Transfer
- ✓ **D)** Windows 8 Upgrade Assistant

Explanation

You should use Windows 8 Upgrade Assistant to ensure that all the hardware in the Windows 7 computer is compatible with Windows 8.

You should not use Windows 7 Upgrade Assistant. This tool is used when you want to upgrade from Windows Vista to Windows 7.

You should not use Windows Easy Transfer. This tool is used to save your files and settings from an older version of Windows to ensure that these files and settings can be copied into the new version of Windows. It is used to transfer files and settings from XP, Vista, or Windows 7 or 8 to another installation of Windows 8 or prior. Windows Easy Transfer was discontinued in Windows 10.

You should not use Microsoft Assessment and Planning Toolkit. This tool is an automated, multi-product planning and assessment tool for quicker and easier migrations. It provides detailed readiness assessment reports, executive proposals, and actionable recommendations. It works with Windows 7 Service Pack 1, Windows 8, Windows 8.1, Windows Server 2008 R2 SP1, Windows Server 2012, and Windows Server 2012 R2.

If you need to upgrade to Windows 10, you should use the Windows 10 Upgrade Assistant.

You need to understand the compatibility concerns between operating systems. Running the applicable Upgrade Assistant will check for hardware compatibility issues. However, it will not check for application compatibility issues. Prior to upgrading your operating system, you need to thoroughly research the process for upgrading as well as potential compatibility issues.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Check your PC for Windows 8 readiness with upgrade assistant, <https://www.cnet.com/how-to/check-your-pc-for-windows-8-readiness-with-upgrade-assistant/>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #20 of 99

Question ID: 1202773

You have configured System Restore on the computers in your network. Which condition will NOT result in a restore point being created?

- X **A)** upgrading device driver
- ✓ **B)** saving a new file
- X **C)** installing new device driver
- X **D)** installing software

Explanation

Saving a new file will NOT result in a restore point being created.

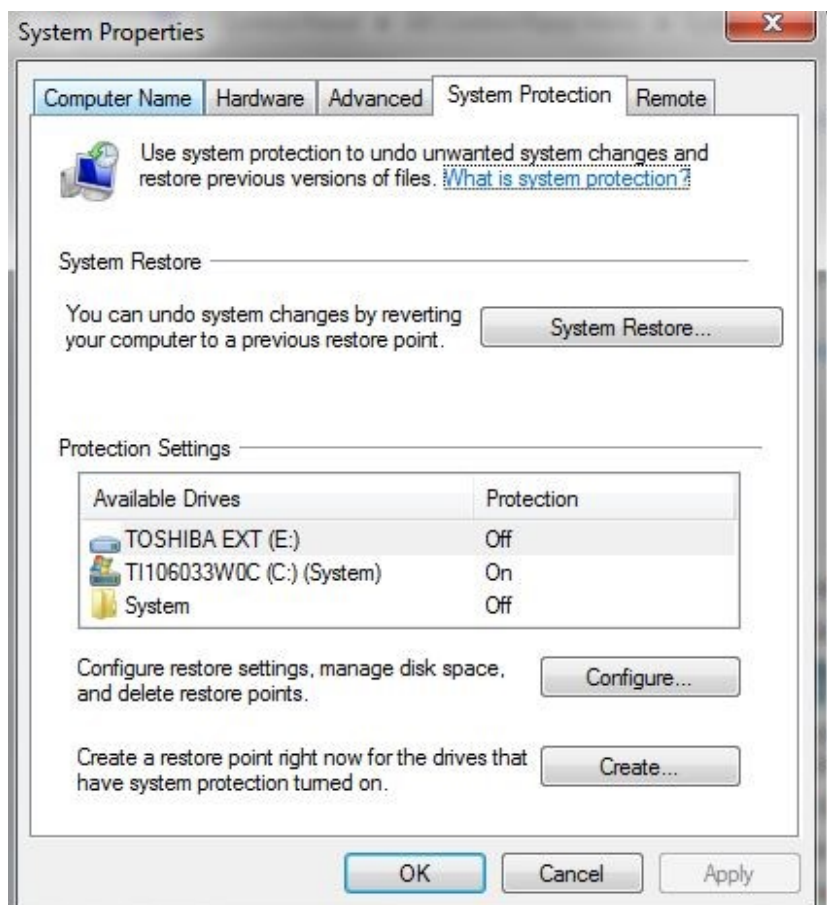
System Restore repairs computer software by periodically creating restore points that can be used. By default, restore points are created once a day. In addition, it monitors system activity and creates a new restore point if the following conditions occur:

- Software installation
- Hardware driver installation
- Hardware driver upgrades

Manual restore points can also be initiated.

A restore point does not affect your personal data, including your files, pictures, and so on. Saving a new file will not cause a restore point to be created. Keep in mind that converting file systems will result in the need to reinstall System Restore. Restore points only work for the file system on which they were created.

To create a system restore point, select the Create option on the System Protection tab of the System Properties dialog box, as shown in the following exhibit:



If you install an application that is causing system instability and lock-ups and the application will not allow a clean uninstall, you should perform a system restore.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

Restore to Factory Settings, <https://neosmart.net/wiki/restore-to-factory-settings/>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #21 of 99

Question ID: 1176348

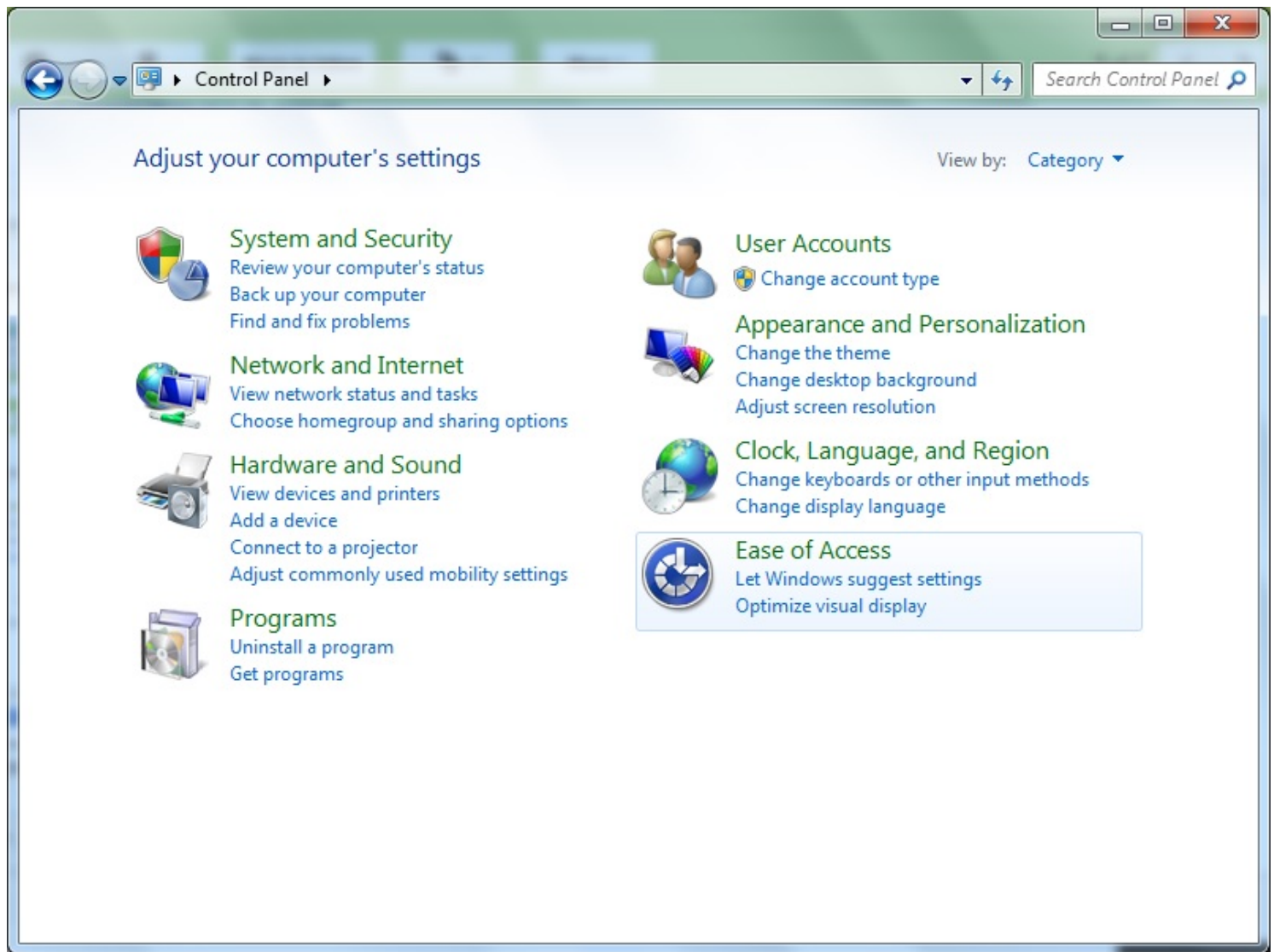
A user requests that his Windows 7 computer display dates using the yyyy-mm-dd format. Where should you go to make this change using the least administrative effort?

- ✓ **A)** In Control Panel Category View, click Clock, Language, and Region. Select Region and Language.
- X **B)** In Control Panel Category View, click Date, Time, Language, and Regional Options. Select Date and Time Options.
- X **C)** In Control Panel Category View, click Date, Time, Language, and Regional Options. Select Regional and Language Options.
- X **D)** In Control Panel Category View, click Clock, Language, and Region. Select Date and Time.

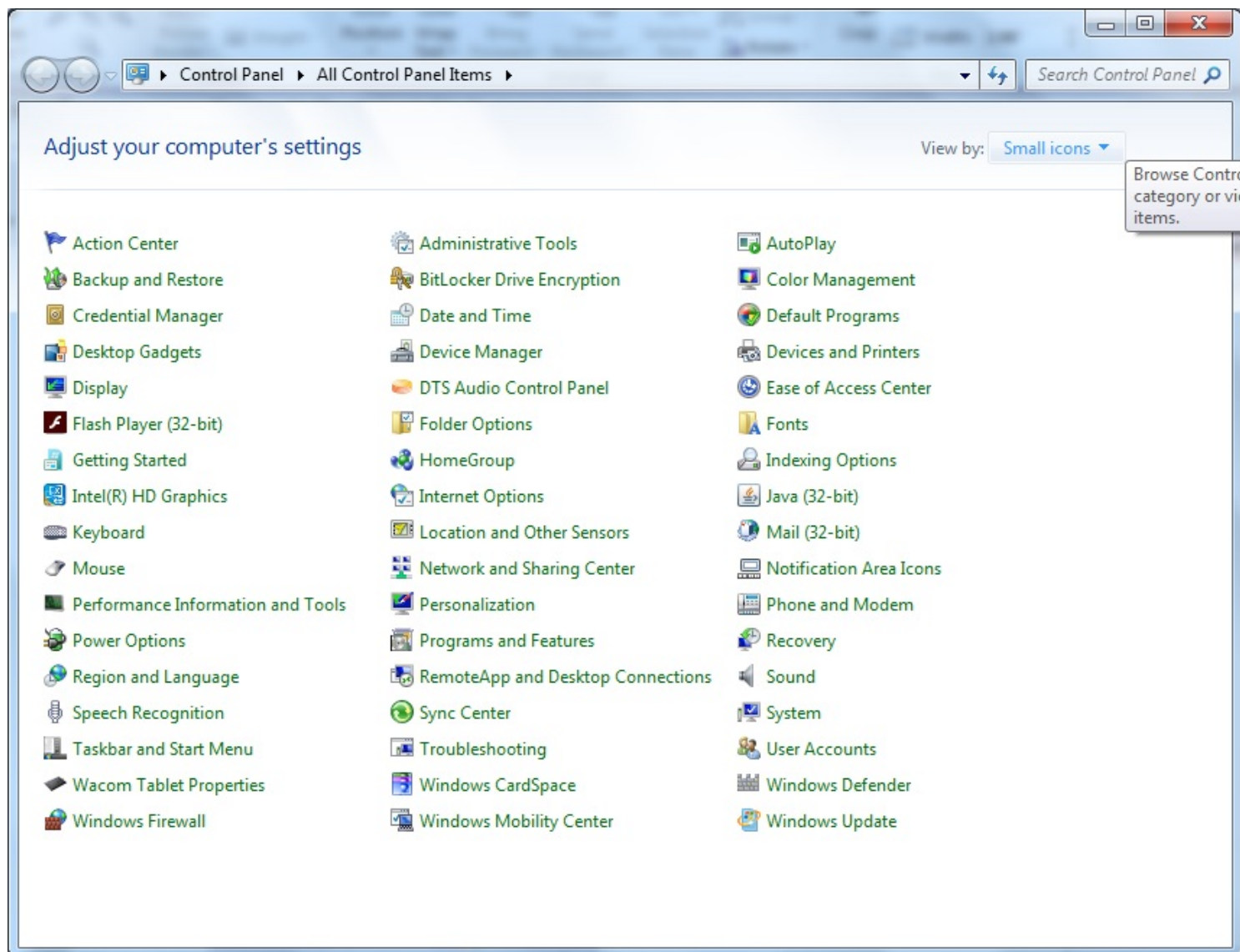
Explanation

To change the date format in Windows 7, Windows 8, Windows 8.1, and Windows 10, you should click Clock, Language, and Region in Control Panel Category View and select Region and Language. The Region and Language dialog box must be used to change time or date formats. The method to access is slightly different if Classic View is used.

Category view in Control Panel resembles the following graphic:



Classic view in Control Panel resembles the following graphic:



You should not click Date, Time, Language, and Regional Options in Control Panel and select Date and Time Options. This was the process in Windows XP for you to set the time and date or change the time zone. It did not control the date format.

You should not click Date, Time, Language, and Regional Options in Control Panel and select Regional and Language Options. This was the process for you to change the date format in Windows XP, not Windows 7 and above.

You should not click Clock, Language, and Region in Control Panel and select Date and Time. This is the process in Windows 7 and above for you to set the time and date or change the time zone. It does not control the date format. While you can eventually navigate to the Region and Language dialog box from this location, it will require more administrative effort than is necessary.

The easiest way to change the date and time formats in Windows 10 is to complete the following steps:

- Open Settings.
- Click on Time & Language.
- Click on Date and time.
- Under Formats, click the Change date and time formats link.
- Use the Short date drop-down menu to select the date format you want to see in the Taskbar.
- Use the Short time drop-down menu to select the time format you want to see in the Taskbar.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Change Date Format in Windows 7, <http://www.sysprobs.com/change-date-format-windows-7-ddmmyyyy>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #22 of 99

Question ID: 1202757

Which of the following statements is true about an in-place upgrade and a clean installation?

- X **A)** An in-place upgrade can always be used when upgrading from a previous operating system version.
- X **B)** A clean installation installs the operating system files and retains user settings.
- ✓ **C)** An in-place upgrade installs the operating system files and retains user settings.
- X **D)** A clean installation does not require the reinstallation of applications.

Explanation

The difference between an in-place upgrade and a clean installation is that an in-place upgrade installs the operating system files and retains user settings, while a clean installation installs the operating system files and does not retain user settings. An in-place upgrade can only be used when the operating systems are closely related, and must follow a certain upgrade path. A clean installation will require the reinstallation of applications.

The following exhibit shows the different Windows 7 upgrade paths:

		Windows 7 Home Premium		Windows 7 Professional		Windows 7 Ultimate	
	Version	32	64	32	64	32	64
Windows Vista Starter	32	Custom install	Custom install	Custom install	Custom install	Custom install	Custom install
	64	Custom install	Custom install	Custom install	Custom install	Custom install	Custom install
Windows Vista Home Basic	32	In-place upgrade	Custom install	Custom install	Custom install	In-place upgrade	Custom install
	64	Custom install	In-place upgrade	Custom install	Custom install	Custom install	In-place upgrade
Windows Vista Home Premium	32	In-place upgrade	Custom install	Custom install	Custom install	In-place upgrade	Custom install
	64	Custom install	In-place upgrade	Custom install	Custom install	Custom install	In-place upgrade
Windows Vista Business	32	Custom install	Custom install	In-place upgrade	Custom install	In-place upgrade	Custom install
	64	Custom install	Custom install	Custom install	In-place upgrade	Custom install	In-place upgrade
Windows Vista Ultimate	32	Custom install	Custom install	Custom install	Custom install	In-place upgrade	Custom install
	64	Custom install	Custom install	Custom install	Custom install	Custom install	In-place upgrade

The following exhibit shows the different Windows 8 and Windows 8.1 upgrade paths:

Upgrade from	Upgrade to Windows 8	Upgrade to Windows 8.1
Windows 7 Starter	In-place upgrade	In-place upgrade
Windows 7 Home Basic	In-place upgrade	In-place upgrade
Windows 7 Home Premium	In-place upgrade	In-place upgrade
Windows 7 Professional	Custom install	In-place upgrade
Windows 7 Enterprise	Custom install	Custom install
Windows 7 Ultimate	Custom install	In-place upgrade

There is no direct upgrade path from Windows Vista to Windows 8 or 8.1. You must first upgrade it to Windows 7.

The following exhibit shows the upgrade paths from Windows 7 to Windows 10 (marked with checks) and downgrade paths (marked with D):

		Windows 10 Home	Windows 10 Pro	Windows 10 Pro Education	Windows 10 Education	Windows 10 Enterprise
Windows 7	Starter	✓	✓	✓	✓	
	Home Basic	✓	✓	✓	✓	
	Home Premium	✓	✓	✓	✓	
	Professional	D	✓	✓	✓	✓
	Ultimate	D	✓	✓	✓	✓
	Enterprise				✓	✓

The following exhibit shows the upgrade paths from Windows 8.1 to Windows 10 (marked with checks) and downgrade paths (marked with D):

Windows 8.1	(Core)	✓	✓	✓	✓	
	Connected	✓	✓	✓	✓	
	Pro	D	✓	✓	✓	✓
	Pro Student	D	✓	✓	✓	✓
	Pro WMC	D	✓	✓	✓	✓
	Enterprise				✓	✓
	Embedded Industry					✓
	Windows RT					
	Windows Phone 8.1					

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Custom Install or In-Place Upgrade to Windows 7? (Official Upgrade Paths Chart Reference),

<http://www.mydigitallife.info/custom-install-or-in-place-upgrade-to-windows-7-official-upgrade-paths-chart-reference/>

Windows 8 Frequently Asked Questions/Quick Guide, <http://www.activewin.com/faq/windows8.shtml>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #23 of 99

Question ID: 1202759

You have recently been hired as an IT technician. You need to install Windows 7 on several computers on the network. There are several installation options available. Move the correct items from the left column to the column on the right to match the installation type with the correct installation situation.

{UCMS id=5718211657990144 type=Activity}

Explanation

Four different installation types are given. The installation types should be matched with the situations in the following manner:

- Clean Installation - Windows should ignore the previous installation of Windows
- Upgrade Installation - Windows should retain user data and applications
- Multiboot Installation - More than one Windows version needs to be installed on a computer
- Network Installation - Windows needs to be installed on multiple computers with identical hardware configurations

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Pros and cons of a Windows 10 clean install vs. upgrade, <https://searchenterprisedesktop.techtarget.com/tip/Pros-and-cons-of-a-Windows-10-clean-install-vs-upgrade>

How to Dual Boot Windows, <https://www.techadvisor.co.uk/how-to/windows/how-dual-boot-windows-3633084/>

How to Install OS Through Network Boot, <https://www.aioboot.com/en/network-boot/>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #24 of 99

Question ID: 1202784

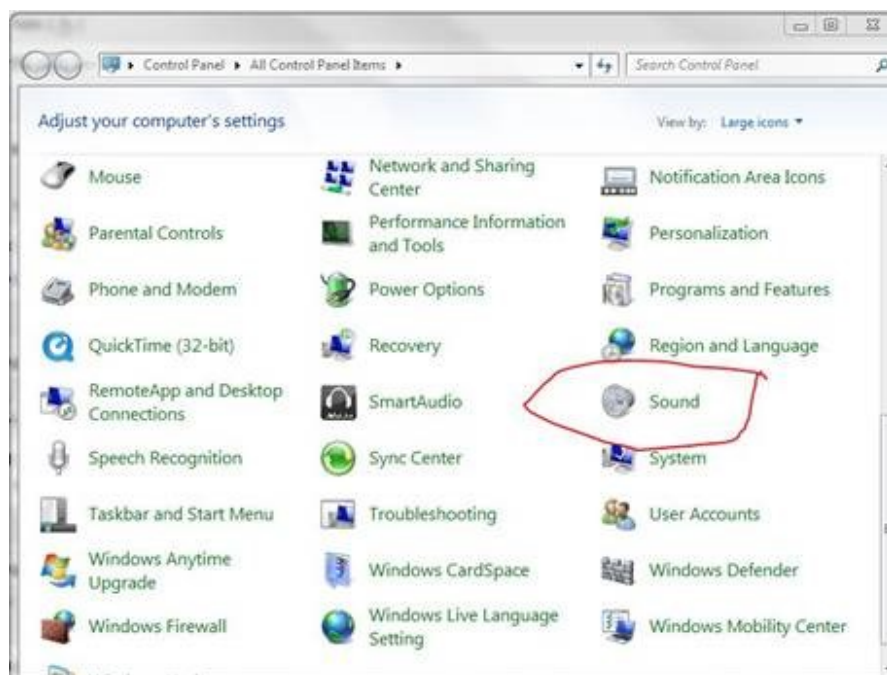
You need to adjust the microphone recording levels on a Windows 7 computer. Where should you go?

- X A) Click Start and choose Control Panel. Click Sounds and Audio Devices, and select the Voice tab. In the Voice Recording section, click the Volume button.
- ✓ B) Click Start and choose Control Panel. Click Sound, and select the Recording tab. Select the microphone you want to adjust, and click Properties. In the Microphone Properties dialog box, select the Levels tab.
- X C) Click Start and choose Control Panel. Double-click Speech. Choose the Speech Recognition tab. Select the Audio Input button, and then click the Properties button.
- X D) Click Start and choose Control Panel. Click Ease of Access and Speech Recognition. Click Set up microphone.

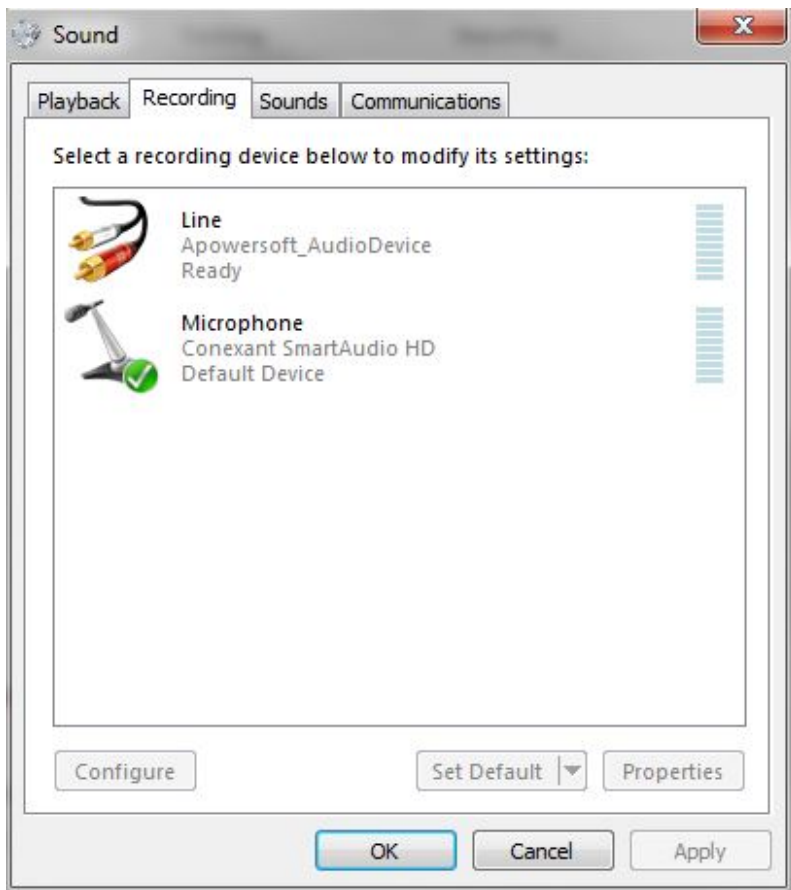
Explanation

You should complete the following steps to adjust the microphone recording levels in Windows 7 and above.

Click Start and choose Control Panel. Click Sound as shown in the following exhibit:



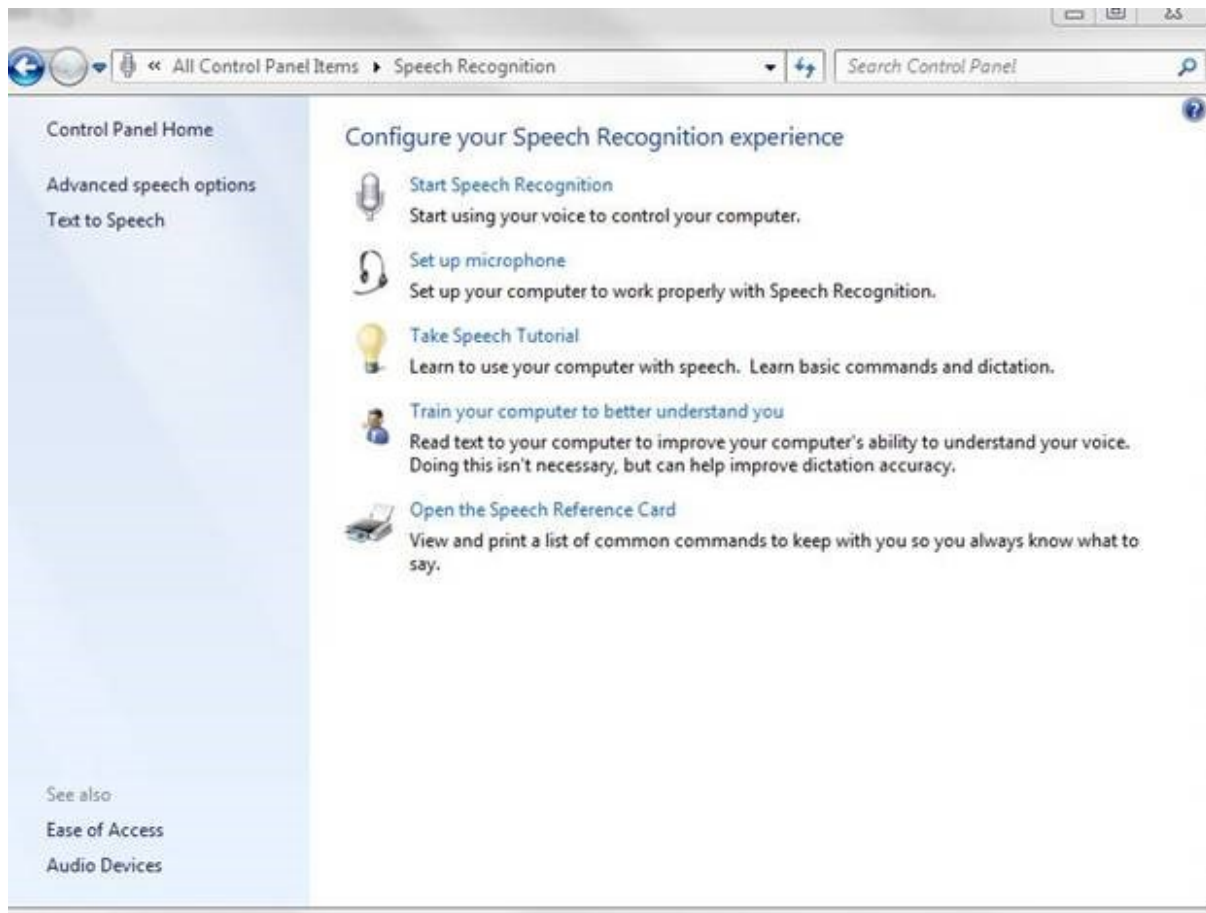
Select the Recording tab, as shown in the following exhibit:



Select the microphone you want to adjust, and click Properties. In the Microphone Properties dialog box, select the Levels tab. Finally, adjust the levels as needed.

None of the other options is correct.

If you click Start and Control Panel, click Ease of Access and Speech Recognition, and then select Set up microphone, you will be able to configure only the microphone for speech recognition. This will display the Configure your Speech Recognition experience screen as shown in the following exhibit:

**Objective:**

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft Windows Control Panel utilities.

References:

How to Boost or Increase Microphone Volume in Windows, <https://www.thewindowsclub.com/boost-microphone-volume-windows>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.6 Given a scenario, use Microsoft Windows Control Panel utilities

Question #25 of 99

Question ID: 1202782

You have instructed users not to store passwords for web sites on their computers. You need to examine a user's computer to determine if the policy is being followed. Which Control Panel utility should you use?

- X A) BitLocker Drive Encryption
- X B) Network and Sharing Center

- ✓ **C) Credential Manager**
- X **D) Programs and Features**

Explanation

Credential Manager is the Control Panel utility that will allow you to see and manage stored passwords.

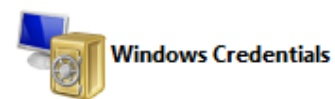
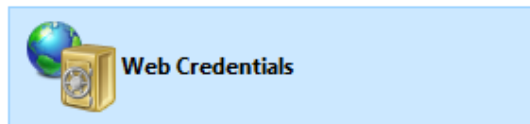
Credential Manager

← → ▾ ↑  > Control Panel > User Accounts > Credential Manager



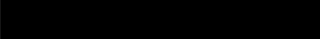






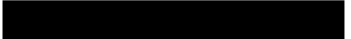

[Control Panel Home](#)

Manage your credentials

View and delete your saved logon information for websites, connected applications and networks.



Web Passwords









https://hub.totalsem.com/		
Website address (URL): https://hub.totalsem.com/		
User name: 		
Roaming: yes		
Saved By: Internet Explorer		
Password: Show		
Remove		
https://mypartnersummit.zerista.com/		
https://ppbshr.onlineexpert.com/		
https://www.dropbox.com/		
https://www.lochoice.com/		

Programs and Features is the Control Panel utility that allows you to uninstall or change a program.

Panel > All Control Panel Items > Programs and Features

Uninstall or change a program

To uninstall a program, select it from the list and then click Uninstall, Change, or Repair.


Organize ▾				
Name	Publisher	Installed On	Size	Version
 Adobe Acrobat Reader DC	Adobe Systems Incorporated	2/11/2019	363 MB	19.010.20069
 Adobe Flash Player 30 NPAPI	Adobe Systems Incorporated	11/13/2018	20.3 MB	30.0.0.134
 Conexant HD Audio	Conexant	10/18/2018		8.66.16.50
 Dolby Digital Plus Advanced Audio	Dolby Laboratories Inc	10/18/2018	2.99 MB	7.6.5.1
 Google Chrome	Google, Inc.	4/4/2018	50.4 MB	72.0.3626.109
 Intel® Graphics Driver	Intel Corporation	10/18/2018	74.2 MB	20.19.15.4835
 Microsoft Office 365 ProPlus - en-us	Microsoft Corporation	10/18/2018		16.0.7369.2127
 Microsoft OneDrive	Microsoft Corporation	2/11/2019	112 MB	19.002.0107.0008
 Microsoft Project Professional 2016 - en-us	Microsoft Corporation	10/18/2018		16.0.7369.2127

Network and Sharing Center is the Control Panel utility that allows you to manage network connections.

> All Control Panel Items > Network and Sharing Center

View your basic network information and set up connections

View your active networks

 **Domain network**

Access type: Internet

Connections:  Wi-Fi ()

Change your networking settings



[Set up a new connection or network](#)

Set up a broadband, dial-up, or VPN connection; or set up a router or access point.



[Troubleshoot problems](#)

Diagnose and repair network problems, or get troubleshooting information.

BitLocker encrypts the hard drive, and decryption requires the user to input a PIN. BitLocker prevents offline attacks, such as during the boot process, or if the hard drive is removed and placed into another system. BitLocker will not protect the drive when Windows is running. BitLocker is shown in the following exhibit:



BitLocker Drive Encryption

Help protect your files and folders from unauthorized access by protecting your drives with BitLocker.

Operating system drive

OSDisk (C:) BitLocker on



-  Suspend protection
-  Change how drive is unlocked at startup
-  Back up your recovery key
- Change PIN
-  Turn off BitLocker

Fixed data drives

Removable data drives - BitLocker To Go

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft Windows Control Panel utilities.

References:

Accessing Credential Manager <https://support.microsoft.com/en-us/help/4026814/windows-accessing-credential-manager>

Question #26 of 99

Question ID: 1176331

On which versions of Windows can PowerShell Core 6.0 be used? (Choose all that apply.)

- ☒ A) Windows 7
- ☒ B) Windows 8
- ☒ C) Windows 8.1
- ☒ D) Windows 10

Explanation

PowerShell Core 6.0 is the latest version of PowerShell and can be used in Windows 8, Windows 8.1, and Windows 10.

PowerShell Core 6.0 cannot run in Windows 7. It requires an upgrade to Service Pack 1, which would result in Windows 7 SP 1, not Windows 7.

The PowerShell scripting tool can be used in Windows 7, Windows 8, Windows 8.1, and Windows 10. Each edition of Windows, however, has a different version of PowerShell.

Windows 7 came with PowerShell 2.0, and can be updated to PowerShell 5.1 with Windows 7 SP1.

Windows 8 came with PowerShell 3.0. It can be updated to PowerShell 5.1 by upgrading from Windows 8 to Windows 8.1.

Windows 8.1 came with PowerShell 4.0 and can be updated to PowerShell 5.1.

PowerShell Core 6.1 is the latest PowerShell Core version. It is supported on the same OSs as PowerShell Core 6.0.

Objective:

Operating Systems

Sub-Objective:

Compare and contrast features of Microsoft Windows versions.

References:

Differences Between PowerShell Versions, <https://4sysops.com/wiki/differences-between-powershell-versions/>

PowerShell Core 6.0: Generally Available (GA) and Supported!,

<https://blogs.msdn.microsoft.com/powershell/2018/01/10/powershell-core-6-0-generally-available-ga-and-supported/>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1. 2 Compare and contrast features of Microsoft Windows versions

Question #27 of 99

Question ID: 1202796

You are preparing a security awareness presentation for your company's employees. You need to cover malware and the ways in which computers are infected. Which operating systems are immune to malware?

- X **A)** Linux systems
- X **B)** Windows-based systems
- X **C)** Mac OS
- ✓ **D)** None of these

Explanation

None of the listed operations systems is immune to malware. You can be infected through a bad Windows USB stick, an email, phishing applications, and more. There are far fewer viruses that target the Mac and Linux operating systems, but they do exist.

Scheduled backups, scheduled disk maintenance, system updates/App store, patch management, driver/firmware updates, and antivirus/antimalware updates are some areas for which you want have best practices in place. Best practices for Mac OS and Linux include the following:

	Mac OS	Linux
Scheduled backups	Managed through Time Machine. Requires external storage solution.	Rsync is built in, and multiple independent applications available, including fwbackups, Bacula, Rsync and MondoRescue, but many other solutions exist.
Scheduled disk maintenance	Disk Utility application allows you to schedule disk maintenance	Use fsck (file system check)
System updates/App store	System updates are available from the App Store. You can also use the Software Update feature.	You can use a GUI such as System-Administration-Update Manager, or use <i>apt-get update</i> from the command line.
Patch management	Native Mac support for patch management is very weak. Third party tools are available, including JAMF Casper Suite, Centrify Direct Control, ADmitMac and many more.	Spacewalk from Redhat is an open source patch management tool
Driver/firmware updates	While Mac OS typically manages	Built in to the distro. As examples. Redhat uses RPM, Ubuntu uses PPA, and Fedora uses yum.
Antivirus/ Antimalware updates	Contrary to the opinion of many, Mac are not immune to virus and malware attacks. Avast, BitDefender, Kaspersky, McAfee and others have Mac versions.	Linux versions are also available from the major providers.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems.

References:

Do Apple Macs get viruses?, <http://www.computerhope.com/issues/ch000737.htm>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.9 Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems

Question #28 of 99

Question ID: 1202756

You need to upgrade a computer running Windows 7 Home Premium with Service Pack 1 to Windows 8. To which editions of Windows 8 can this computer be upgraded? (Choose all that apply.)

- X **A)** Windows 8 RT
- X **B)** Windows 8 Enterprise
- ✓ **C)** Windows 8 Basic
- ✓ **D)** Windows 8 Pro

Explanation

Windows 7 Home Premium with Service Pack 1 can be upgraded to Windows 8 Basic or Pro.

Windows 8 RT is preinstalled only on new computers or tablets. Windows 8 Enterprise is included only with Windows 7 Professional or Enterprise.

Windows 7 Starter, Home Basic, and Home Premium can be upgraded to Windows 8 Basic or Pro. Windows 7 Professional can be upgraded to Windows 8 Pro or Enterprise. Windows 7 Ultimate can be upgraded to Windows 8 Pro. Windows 7 Enterprise can be upgraded to Windows 8 Enterprise.

When upgrading to Windows 8.1, you can only upgrade to the same edition that you currently have installed unless you install from media. For example, you can only upgrade from Windows 8 Pro to Windows 8.1 Pro. However, if you want to upgrade from Windows 8 Basic to Windows 8.1 Pro, you will need the installation media.

When upgrading to Windows 10, users will now have an “edition downgrade” option, which will allow users of a higher edition in a previous Windows version to switch to a lower edition of Windows 10. This “downgrade” will maintain personal data but will remove applications and settings.

Windows 7 Starter, Home Basic, and Home Premium can be upgraded to Windows 10 Home, Pro, Pro Education, and Education. Windows 7 Professional and Ultimate can be downgraded to Windows 10 Home or upgraded to Windows 10 Pro, Pro Education, Education, and Enterprise. Windows 7 Enterprise can be upgraded to Windows 10 Education or Enterprise.

Windows 8.1 Core or Basic can be upgraded to Windows 10 Home, Pro, Pro Education, and Education. Windows 8.1 Pro can be downgraded to Windows 10 Home or upgraded to Windows 10 Pro, Pro Education, Education, and Enterprise. Windows 8.1 Enterprise can be upgraded to Windows 10 Education or Enterprise.

Following these upgrade paths will ensure operating system compatibility.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Windows 8: The Basics, Versions & Upgrade Paths, <https://www.hardwarezone.com.my/feature-windows-8-basics-versions-upgrade-paths/windows-8-upgrade-paths-0>

Summarize general OS installation considerations and upgrade methods

Question #29 of 99

Question ID: 1176369

You need to run Disk Defragmenter, but several other applications are running. Why should you shut down all running applications first?

- X **A)** Disk Defragmenter requires exclusive access to drives.
- ✓ **B)** Running other applications may result in disk write operations forcing Disk Defragmenter to restart continually.
- X **C)** Running applications prevent Disk Defragmenter from being launched.
- X **D)** If the other applications are running, Disk Defragmenter offers to run at the next bootup time.

Explanation

Running other applications may result in disk write operations, forcing Disk Defragmenter to restart continually. Disk Defragmenter reorders file contents on the disk in an attempt to store each file in a contiguous sequence of disk storage blocks. Any application that is running and writing data to the disk may disrupt the ordering carried out by Disk Defragmenter and force the defragmentation process to be restarted.

Disk monitoring and antivirus applications, both of which continuously monitor disks, frequently cause Disk Defragmenter to restart several times. The Terminate and Stay Resident (TSR) applications used with MS-DOS had a similar effect. TSR programs were designed to run in the background and disrupt the many maintenance programs, causing them to restart.

Disk Defragmenter does not require exclusive access to drives. Disk Defragmenter can run concurrently with other applications that are accessing the drives. The CHKDSK utility requires exclusive drive access while checking boot drives.

In a multitasking operating system, such as Windows, the launch of an application is not prevented by other running applications.

Disk Defragmenter does not offer to run at the next bootup time if other applications are running. This behavior is exhibited by the disk maintenance program named CHKDSK while checking boot drives. CHKDSK cannot run without exclusive access to drives. If CHKDSK encounters open files, it cannot proceed. In either situation, CHKDSK typically offers to reschedule its run to the next bootup to gain exclusive disk access without being hindered by open files.

A+ technicians are expected to understand and be able to implement preventative maintenance procedures that include the following:

- Scheduled backups - Backups can be scheduled using Task Scheduler, the Backup utility, or a third-party solution. Backups should be implemented on a regular basis. Backups should occur at a time when the computer demands are the lowest, usually when the user is not at the computer. Backups should periodically be tested to ensure that they can

be restored. In addition, selected backups should be stored offsite to ensure that the data can be restored in the event of a natural disaster. In most cases, backups are performed on a daily or weekly basis, depending upon the value of the data.

- Scheduled check disks - The chkdsk utility is used to check the disk for errors. This utility is usually scheduled to run using Task Scheduler. In most cases, disks are checked for errors on a weekly or monthly basis.
- Scheduled defragmentation - The defrag utility is used to defragment the hard drive. This utility is usually scheduled to run using Task Scheduler. When the defragmenter is executed, it first performs a test to see if a defragmentation is necessary. In most cases, disks are defragmented on a weekly or monthly basis.
- Windows Updates - Windows Updates are vital to any Windows computer. Windows updates allow you to determine how often you want to check for updates and how the updates will be downloaded and/or installed. In most cases, Windows Updates are downloaded and installed automatically. In some corporate environments, a Windows Updates server will be deployed to ensure that Windows Updates are deployed in a more centralized manner.
- Patch management - All applications will need security updates and other patches. It is important to maintain all applications in a timely manner. You should be familiar with the proper procedure for downloading and installing the latest patches. Vendor Web sites should be monitored for application updates. Always test the latest patches before installing to production.
- Driver/firmware updates - Periodically hardware vendors will release new drivers and/or firmware. The latest driver or firmware should be installed when it is released. Always test the latest drivers and firmware before installation to production.
- Antivirus updates - All computers should be protected with antivirus software. Antivirus software requires that you periodically update the software with the latest virus definitions from the antivirus vendor. Most antivirus applications have a built-in feature that checks for updates automatically. Users should be educated on the important of the antivirus updates. The latest updates should be installed when they are released.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

Disk Defragmenter Hangs After Choosing Disk to Defragment, <https://support.microsoft.com/en-us/help/218160/disk-defragmenter-hangs-after-choosing-disk-to-defragment>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #30 of 99

Question ID: 1202764

You are concerned that there is an unauthorized open port that is allowing connection to a malicious website. You need to view all of a computer's connections. Which command-line tool should you use?

- ✓ **A) netstat**
- X **B) tracert**
- X **C) ipconfig**
- X **D) ping**

Explanation

You should use the netstat command. The netstat command will show you all of the TCP/IP network connections and associated ports. An example of the output of the netstat command is shown in the following exhibit:

```
C:\Users\james>netstat

Active Connections

Proto Local Address           Foreign Address         State
TCP    10.106.100.227:51651     52.165.175.144:https    ESTABLISHED
TCP    10.106.100.227:51653     64-135-150-215:5061    ESTABLISHED
TCP    10.106.100.227:52509     bs07svr015:microsoft-ds ESTABLISHED
TCP    10.106.100.227:52510     104.16.127.52:https    ESTABLISHED
TCP    10.106.100.227:52517     bs99svr085:10123      ESTABLISHED
TCP    10.106.100.227:52524     bs99svr105:microsoft-ds ESTABLISHED
TCP    10.106.100.227:52565     bs07svr017:49156      ESTABLISHED
TCP    10.106.100.227:52567     bs06svr017:49163      ESTABLISHED
TCP    10.106.100.227:52592     qo-in-f188:5228       ESTABLISHED
TCP    10.106.100.227:53679     40.97.125.130:https    ESTABLISHED
TCP    10.106.100.227:53696     52.114.76.35:https    CLOSE_WAIT
TCP    10.106.100.227:53697     52.114.76.35:https    CLOSE_WAIT
TCP    10.106.100.227:53741     40.97.152.82:https    ESTABLISHED
TCP    10.106.100.227:53857     52.96.28.2:https      ESTABLISHED
TCP    10.106.100.227:54034     40.97.29.226:https    TIME_WAIT
TCP    10.106.100.227:54592     40.97.190.2:https     ESTABLISHED
TCP    10.106.100.227:54756     40.97.229.82:https    ESTABLISHED
TCP    10.106.100.227:54838     104.36.115.111:https  ESTABLISHED
TCP    10.106.100.227:54842     ox-173-241-242-220:https ESTABLISHED
TCP    10.106.100.227:54855     ec2-35-170-215-223:https ESTABLISHED
TCP    10.106.100.227:54858     server-52-85-89-187:https TIME_WAIT
TCP    10.106.100.227:54888     a96-17-129-160:https  ESTABLISHED
TCP    10.106.100.227:54914     151.101.130.49:https  ESTABLISHED
TCP    10.106.100.227:54985     a96-17-129-160:https  ESTABLISHED
TCP    10.106.100.227:54989     a23-10-150-121:https  ESTABLISHED
TCP    10.106.100.227:54993     49:https              ESTABLISHED
TCP    10.106.100.227:54997     a23-15-56-154:https   ESTABLISHED
TCP    10.106.100.227:55115     162.248.19.151:https  ESTABLISHED
```

There are a number of switches (options) that provide additional information about the connections, as shown in the following exhibit:

```
C:\Users\ >netstat /?
```

Displays protocol statistics and current TCP/IP network connections.

```
NETSTAT [-a] [-b] [-e] [-f] [-n] [-o] [-p proto] [-r] [-s] [-x] [-t] [interval]
```

-a	Displays all connections and listening ports.
-b	Displays the executable involved in creating each connection or listening port. In some cases well-known executables host multiple independent components, and in these cases the sequence of components involved in creating the connection or listening port is displayed. In this case the executable name is in [] at the bottom, on top is the component it called, and so forth until TCP/IP was reached. Note that this option can be time-consuming and will fail unless you have sufficient permissions.
-e	Displays Ethernet statistics. This may be combined with the -s option.
-f	Displays Fully Qualified Domain Names (FQDN) for foreign addresses.
-n	Displays addresses and port numbers in numerical form.
-o	Displays the owning process ID associated with each connection.
-p proto	Shows connections for the protocol specified by proto; proto may be any of: TCP, UDP, TCPv6, or UDPv6. If used with the -s option to display per-protocol statistics, proto may be any of: IP, IPv6, ICMP, ICMPv6, TCP, TCPv6, UDP, or UDPv6.
-q	Displays all connections, listening ports, and bound nonlistening TCP ports. Bound nonlistening ports may or may not be associated with an active connection.
-r	Displays the routing table.
-s	Displays per-protocol statistics. By default, statistics are shown for IP, IPv6, ICMP, ICMPv6, TCP, TCPv6, UDP, and UDPv6; the -p option may be used to specify a subset of the default.
-t	Displays the current connection offload state.
-x	Displays NetworkDirect connections, listeners, and shared endpoints.
-y	Displays the TCP connection template for all connections. Cannot be combined with the other options.
interval	Redisplays selected statistics, pausing interval seconds between each display. Press CTRL+C to stop redisplaying statistics. If omitted, netstat will print the current configuration information once.

The ipconfig command provides the IPv4 and IPv6 addresses of the system, the subnet mask, the default gateway, and other information. Enter ipconfig /? at the command prompt to see the various switches and what they allow you to do.

The ping command tells you how long it takes to reach a target destination, as shown in the following exhibit:


```
C:\Users\... > ping www.dodge.com

Pinging e5377.dscx.akamaiedge.net [173.222.237.181] with 32 bytes of data:
Reply from 173.222.237.181: bytes=32 time=34ms TTL=54
Reply from 173.222.237.181: bytes=32 time=14ms TTL=54
Reply from 173.222.237.181: bytes=32 time=17ms TTL=54
Reply from 173.222.237.181: bytes=32 time=15ms TTL=54

Ping statistics for 173.222.237.181:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 14ms, Maximum = 34ms, Average = 20ms
```

The tracert command shows you the path taken between your machine and a target destination, including the connection times and the routers along the way, as shown in the following exhibit:

```
C:\Users\... >tracert www.dodge.com

Tracing route to e5377.dscx.akamaiedge.net [173.222.237.181]
over a maximum of 30 hops:

  0  1  2  3  4  5  6  7  8  9 10 11
  --
  0  5 ms  4 ms  3 ms 10.106.100.1
  1  1 ms  2 ms  1 ms 10.106.10.17
  2 14 ms  4 ms 34 ms 169.130.233.33
  3 43 ms 17 ms 14 ms vcg40.nycm01-ny.us.windstream.net [40.128.11.237]
  4 16 ms 18 ms 20 ms h188.55.129.40.static.ip.windstream.net [40.129.55.188]
  5 21 ms 30 ms 23 ms ae0-0.cr02.nycm01-ny.us.windstream.net [40.129.37.4]
  6 13 ms 15 ms 14 ms xe-0-0-11-3.a00.nycmny13.us.bb.gin.ntt.net [129.250.193.157]
  7 14 ms 19 ms 14 ms ae-4.r07.nycmny01.us.bb.gin.ntt.net [129.250.6.66]
  8 18 ms 28 ms 26 ms ae-0.a01.nycmny01.us.bb.gin.ntt.net [129.250.3.214]
  9 20 ms 15 ms 16 ms ae-4.akamai.nycmny01.us.bb.gin.ntt.net [157.238.64.118]
10 28 ms 16 ms 17 ms a173-222-237-181.deploy.static.akamaitechnologies.com [173.222.237.181]

Trace complete.
```

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use appropriate Microsoft command line tools.

References:

21 CMD Commands All Windows Users Should Know <https://helpdeskgeek.com/help-desk/21-cmd-commands-all-windows-users-should-know/>

Question #31 of 99

Question ID: 1202772

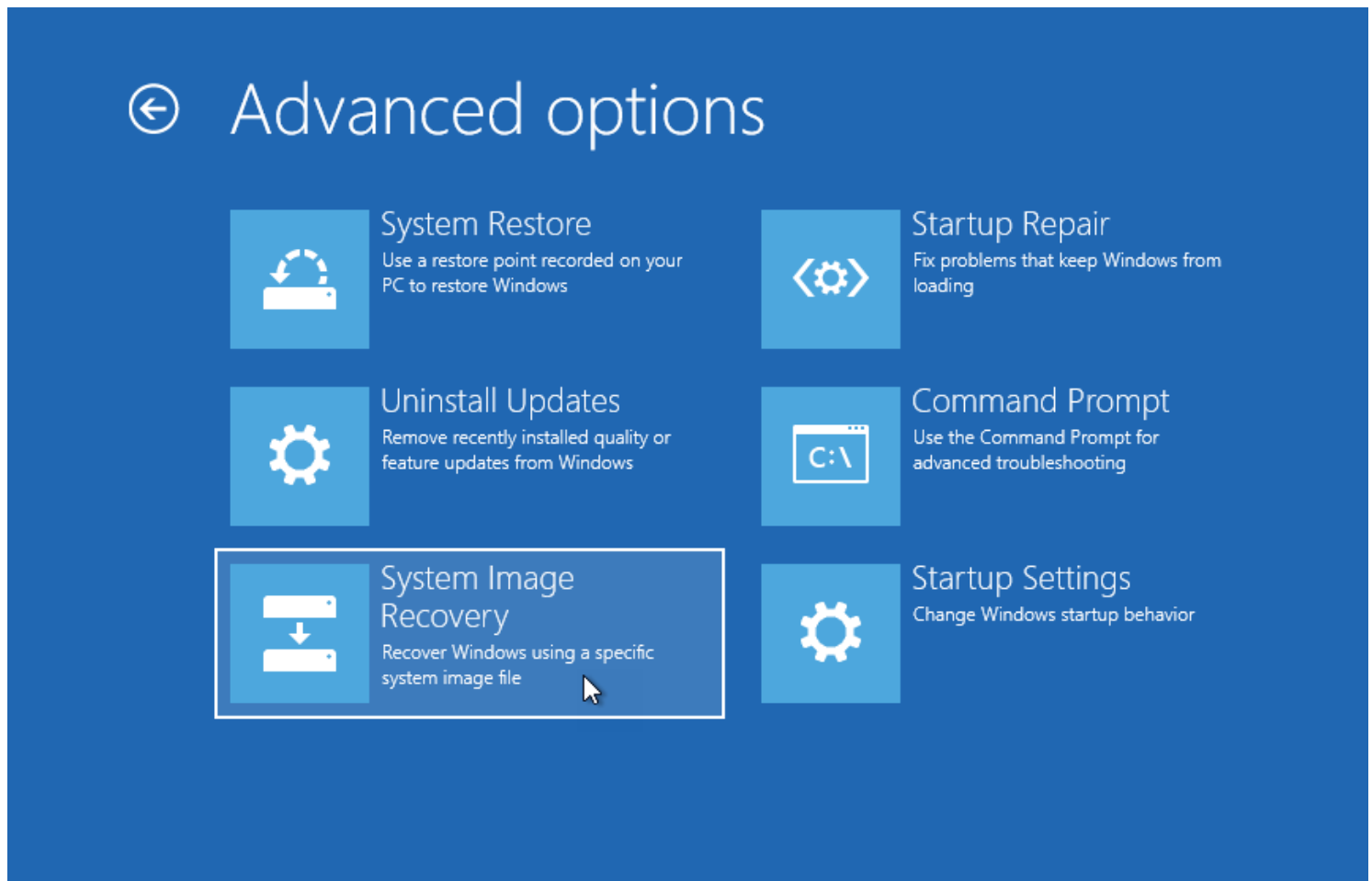
You need to restore a Windows operating system to the way it was when the computer was shipped from the factory. What should you do?

X **A)** Create a restore point.

- X **B)** Use the Disk Management utility.
- ✓ **C)** Press F8 during POST and select Advanced Boot, Repair Your Computer, and System Image Recovery.
- X **D)** Use the format command.

Explanation

You can restore an operating system to the way it was when the computer was shipped from the factory by pressing F8 during POST and selecting Advanced Boot, Repair Your Computer, and System Image Recovery. This will load the recovery image from a separate partition, and restore your system to the way it was when it came from the factory in Windows 8.1 and earlier.



The format command will format the drive, but will not install an operating system. The Disk Management utility does not have an option to restore the operating system. Creating a restore point allows you to create a point to go back to when the operating system was working correctly before you made a major change.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

How to Restore a System Image in Windows 7, <https://www.dummies.com/computers/computer-networking/using-a-network/how-to-restore-a-system-image-in-windows-7/>

Back up and restore your PC, <https://support.microsoft.com/en-us/help/17127/windows-back-up-restore>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #32 of 99

Question ID: 1202754

What should be your primary consideration when upgrading from a previous version of Windows to Windows 10?

- ✓ **A) OS compatibility/upgrade path**
- X **B) Load alternate third-party drivers when necessary**
- X **C) Prerequisites/hardware compatibility**
- X **D) Time/date/region/language settings**

Explanation

Your primary consideration when upgrading from a previous version of Windows to Windows 10 should be the OS compatibility/upgrade path. For example, if you want to upgrade from Windows 8 to Windows 10, you must install Windows 8.1 first.

There may be times when you need to load alternate third-party drivers. An example of when this might be necessary is if you used the factory recovery partition to rebuild the operating system but you have a newly released multifunction printer. However, third-party drivers are not the primary consideration when upgrading Windows.

Time/date/region/language settings allow you to provide the user with settings that are relevant to their location. Time settings adjust to the time zone, date formats vary with countries, and language settings allow for alternate spellings, special keyboard characters and currency symbols. These settings generally move over from one version of Windows to the next.

Prerequisites and hardware compatibility are also issues. It is best to use the Compatibility Checker on the system prior to running the upgrade. The Compatibility Checker will identify issues and potential issues with devices, among other things. But hardware compatibility should be a secondary concern after determining OS compatibility.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Windows 10 Upgrade paths, <https://docs.microsoft.com/en-us/windows/deployment/upgrade/windows-10-upgrade-paths>

Question #33 of 99

Question ID: 1202787

You have installed several 32-bit and 64-bit applications on a Windows 7 64-bit computer. What is the installation folder for the 64-bit applications?

- ✓ **A) C:\Program Files**
- X **B) C:\Windows\System32**
- X **C) C:\Program Files (x86)**
- X **D) C:\Program Files (x64)**

Explanation

The default installation folder for 64-bit applications in any edition of Windows is C:\Program Files, regardless of whether it is running a 32-bit or 64-bit version of the operating system.

If 32-bit applications are installed on a 64-bit Windows Vista computer, the 32-bit applications will install to the C:\Program Files (x86) folder.

The C:\Program Files (x64) folder is not a valid default folder.

The C:\Windows\System32 folder contains vital operating system files.

You can change the default folder for installation by editing the registry. Remember that editing the registry can cause problems with your computer, so only edit the registry if you are sure of what you are doing.

You need to understand 32-bit versus 64-bit application compatibility. 32-bit applications can run on 32-bit and 64-bit computers, but 64-bit applications can only run on 64-bit computers. The default installation folder on both types of computers is C:\Program Files.

If you install both 32-bit and 64-bit applications on a 64-bit computer, the 32-bit applications will be installed in the C:\Program Files (x86) folder, while the 64-bit applications will be installed in the C:\Program Files folder.

Objective:

Operating Systems

Sub-Objective:

Summarize application installation and configuration concepts.

References:

What's the Difference Between the "Program Files (x86)" and "Program Files" Folders in Windows?,
<https://www.howtogeek.com/129178/why-does-64-bit-windows-need-a-separate-program-files-x86-folder/>

Change Default Installation Directory in Windows 10/8/7, <http://www.intowindows.com/change-default-installation-directory-in-windows-7-vista/>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.7

Summarize application installation and configuration concepts

Question #34 of 99

Question ID: 1202789

You just received your new work laptop. Included in the box is a device that looks similar to a USB drive and has the word AirCard on it. Which type of connection to the Internet will this provide?

- X **A)** Dial-up
- X **B)** Wired
- X **C)** VPN
- ✓ **D)** WWAN

Explanation

The card you have been given will provide you a WWAN connection to the Internet. A WWAN connection is a cellular data connection that requires an access card, often called an AirCard. WWAN connections operate over the cellular data network and require a data plan from a cellular provider.

None of the other options uses an AirCard. A VPN uses a public network, such as the Internet, to connect to a private network. It can work over wired or wireless connection, whatever you use to connect to the Internet. A wired connection connects using an Ethernet cable. A dial-up connection uses a regular phone line.

For the A+ exam, you need to understand how to establish networking connections, including VPN, dial-up, wireless, wired, and WWAN (cellular). For a wireless connection, the client uses a wireless access point (WAP) to connect to the Internet. The wireless AP is usually connected to an Ethernet network.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

How to Connect to a VPN in Windows, <http://www.howtogeek.com/134046/how-to-connect-to-a-vpn-in-windows/>

Create a Dial-Up Networking connection on Windows 7, <https://support.earthlink.net/articles/dialup/create-a-dial-up-networking-connection-on-windows-7.php>

How to Connect to Wireless Networks in Windows 7, <http://www.digitalcitizen.life/how-connect-wireless-networks>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #35 of 99

Question ID: 1176353

You are going to install Windows 7. On which type of partition should you install the boot files?

- ✓ **A) Primary**
- X **B) GPT**
- X **C) Dynamic**
- X **D) Extended**

Explanation

In a Windows installation, the boot files must reside on a primary partition. The operating system files may be on another partition. Primary partitions cannot be subdivided.

Dynamic partitions can be simple, spanned, or striped. A dynamic disk that is partitioned as simple is the same as a basic partition, but it has the ability to be spanned or striped in the future. A spanned partition allows you to combine the storage of several disks into a single volume, appearing as one drive letter in the operating system. Spanning does not provide fault tolerance. Striping writes the data across several drives simultaneously, dramatically improving file I/O speeds. In round numbers, the I/O speed for striped volumes can be expressed as 1/N, where N is the number of drives. As with spanning, there is no fault tolerance.

Basic partitions can be either primary or logical and reside on a physical drive. A basic disk can have up to four partitions. They can be four primary partitions or three primary and one logical.

Primary partitions contain the boot information for an operating system and cannot be subdivided.

Extended partitions are created from the space remaining on a physical disk after the primary partition has been created. Within the extended partition, you can subdivide the space into logical drives.

Logical partitions are created within extended partitions and can have drive letters assigned.

GPT stands for GUID Partition Table and is replacing MBR. MBR supports up to four primary partitions and has a disk size limitation of 2 TB. GPT requires a UEFI motherboard.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Hard Disk Drive (HDD), http://www.slideshare.net/jazz_306/hard-disk-30223450

How to partition a hard drive, <http://www.pcworld.com/article/2066191/how-to-partition-a-hard-drive.html>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #36 of 99

Question ID: 1176364

You need to run a command or application that requires administrative privileges. What should you do?

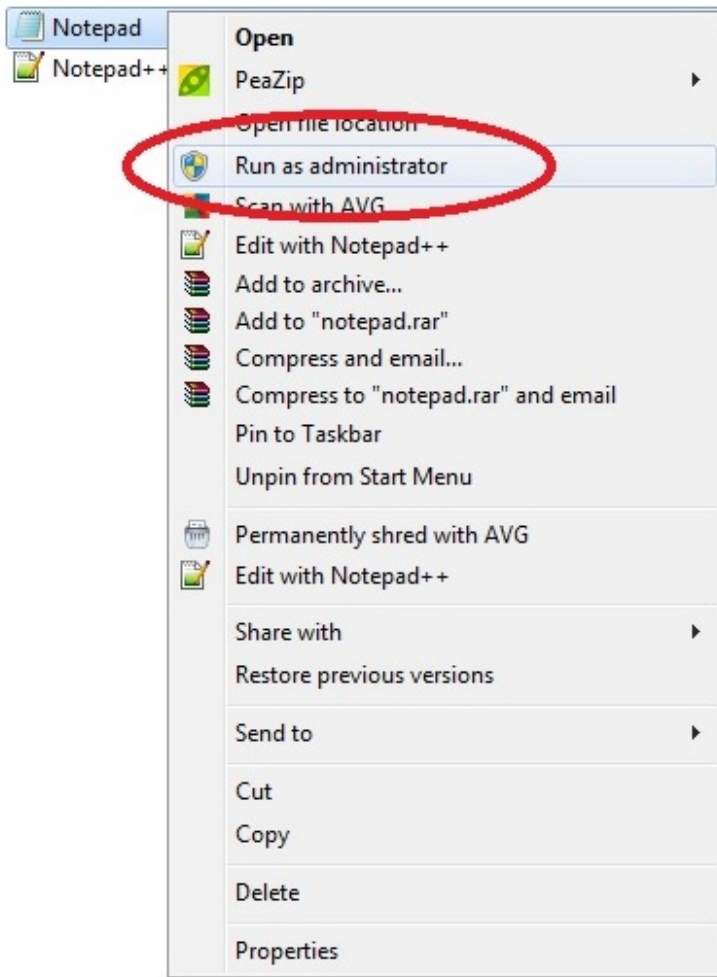
- ✓ **A) Any of these**
- X **B) Right-click the application and select Properties. Select the Run this program as an administrator option on the Compatibility tab.**
- X **C) Enter the command name in the search window, right-click the command when it displays, and select Run as administrator.**
- X **D) Right-click the command prompt, select Run as administrator, and enter the command.**

Explanation

You may use any of the options to run a command that requires administrative privileges. Standard privileges would not allow users to run commands or applications that require administrative privileges.

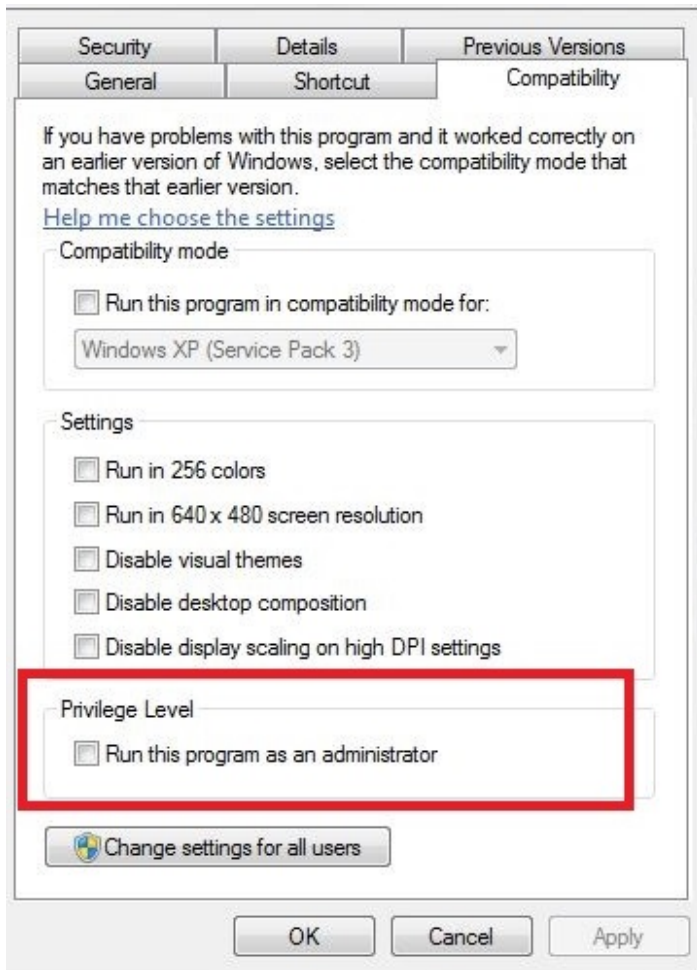
One technique is to enter the command name in the search window, right-click the command when it displays, and select Run as administrator, as shown in the following exhibit:

Programs (2)



You may also right-click the command prompt, select Run as administrator, and enter the command.

You can navigate to the application's icon, right-click it, and select Properties. Next, you can select the Run this program as an administrator option on the Compatibility tab, as shown in the following exhibit:



Selecting this option ensures that the application always runs under an administrative-level account. Make sure that this is necessary before configuring it, because it can possibly cause security issues.

Keep in mind that you need to understand the context under which some commands will run when it comes to standard privileges versus administrative privileges. A command that requires administrative privileges will only execute if it is run under the context of an administrator account.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use appropriate Microsoft command line tools.

References:

Start a Command Prompt as an Administrator, <https://technet.microsoft.com/en-us/library/cc947813%28v=ws.10%29.aspx?f=255&MSPPErr=-2147217396>

How to Open Elevated Command Prompt as Administrator with Admin Privileges in Windows, <https://techjourney.net/how-to-open-elevated-command-prompt-as-administrator-with-admin-privileges-in-windows/>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.4 Given a scenario, use appropriate Microsoft command line tools

Question #37 of 99

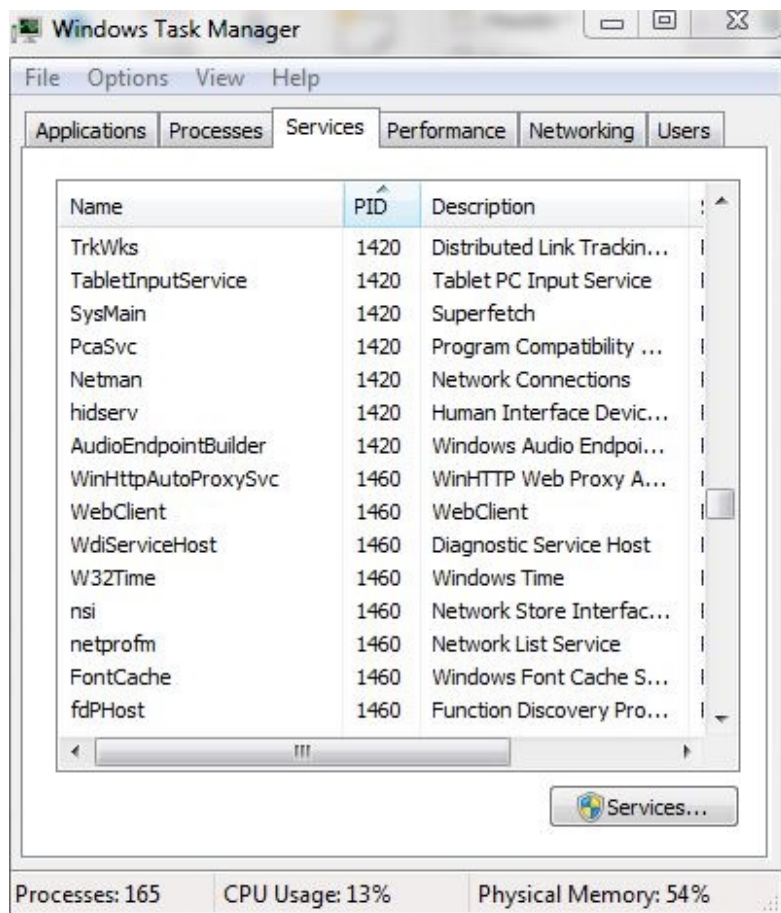
Question ID: 1202776

You need to quickly display the running processes on your Windows 7 computer. What should you do?

- ✓ **A)** Press the Ctrl + Alt + Del buttons and select Start Task Manager.
- X **B)** Click Start and select Control Panel. Click System and Security.
- X **C)** Click Start and select Devices and Printers.
- X **D)** Right-click the Computer icon on the desktop and select Properties.

Explanation

You should press the Ctrl + Alt + Del buttons and select Start Task Manager. The Task Manager has six tabs in Windows 7, as shown in the following exhibit:

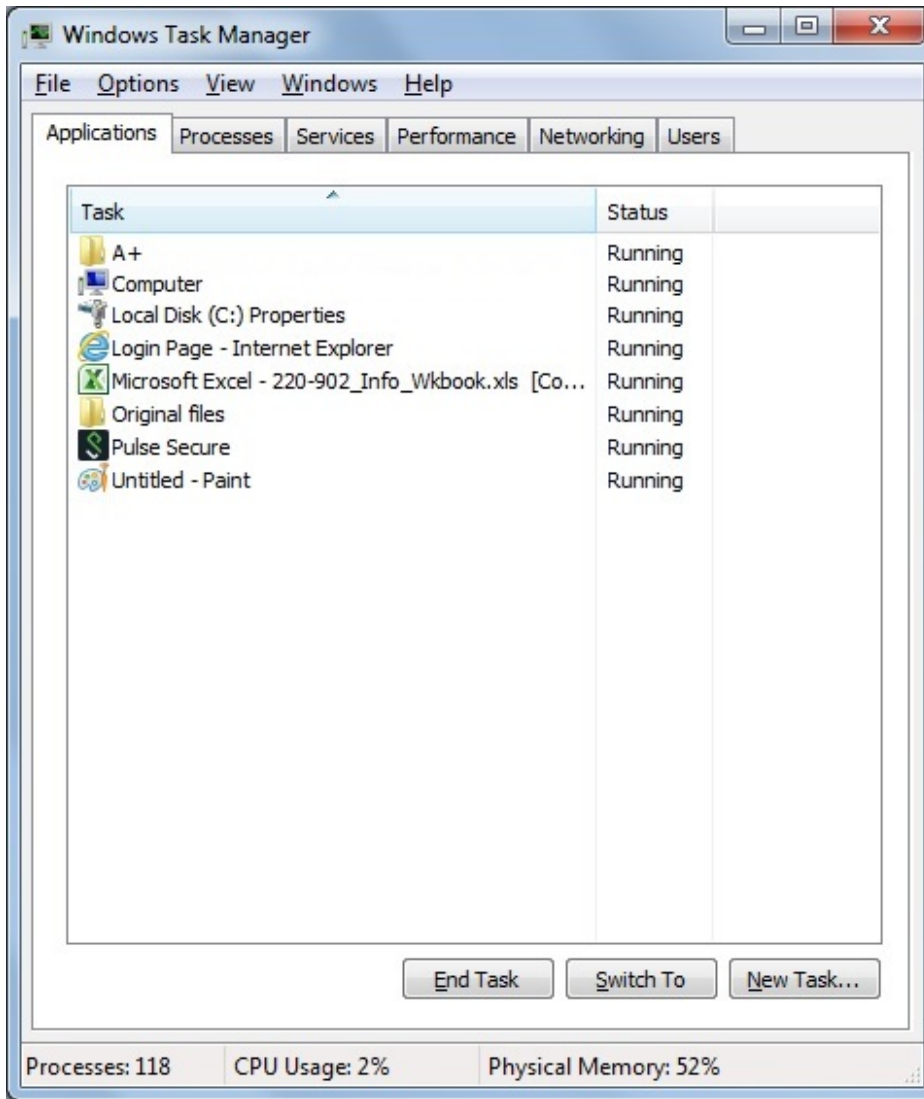


Task Manager in Windows 8, Windows 8.1, and Windows 10 has seven tabs, as shown in the following exhibit:

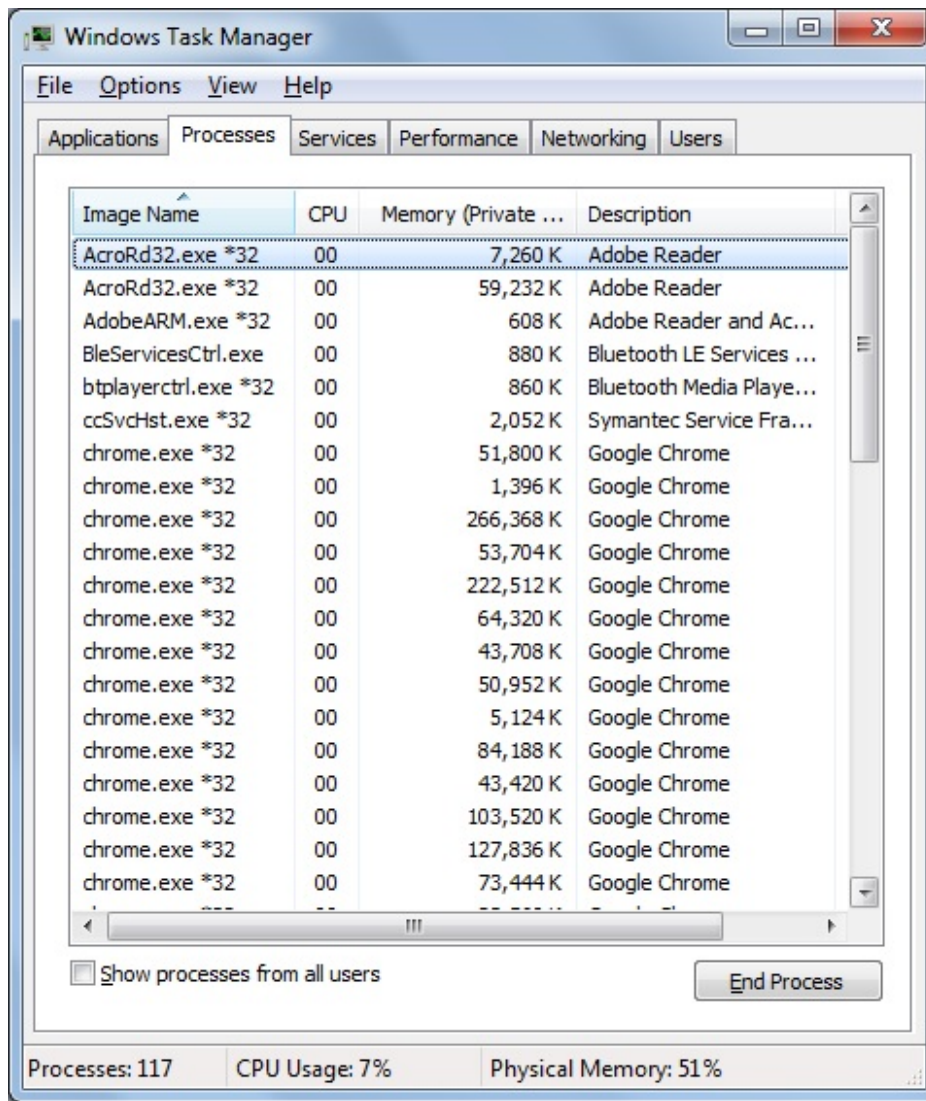
Name	Status	72% CPU	21% Memory	44% Disk	0% Network
Apps (1)					
Task Manager		0.5%	9.5 MB	0 MB/s	0 Mbps
Background processes (11)					
Host Process for Windows Tasks		0%	1.9 MB	0 MB/s	0 Mbps
KMS Connection Broker		0%	1.0 MB	0 MB/s	0 Mbps
Microsoft Software Protection P...		0%	4.2 MB	0 MB/s	0 Mbps
Microsoft Windows Search Inde...		0%	6.0 MB	0 MB/s	0 Mbps
Microsoft® Volume Shadow Co...		0%	1.0 MB	0 MB/s	0 Mbps
Spooler SubSystem App		0%	1.6 MB	0 MB/s	0 Mbps
Store Broker		0%	4.8 MB	0 MB/s	0 Mbps
Windows License Monitoring Se...		0%	0.4 MB	0 MB/s	0 Mbps
WMI Provider Host		13.8%	4.7 MB	0.1 MB/s	0 Mbps
WMI Provider Host		0%	2.0 MB	0 MB/s	0 Mbps
WMI Reverse Performance Ada...		0.5%	1.0 MB	0.1 MB/s	0 Mbps

They are Processes, Performance, App history, Startup, Users, Details, and Services.

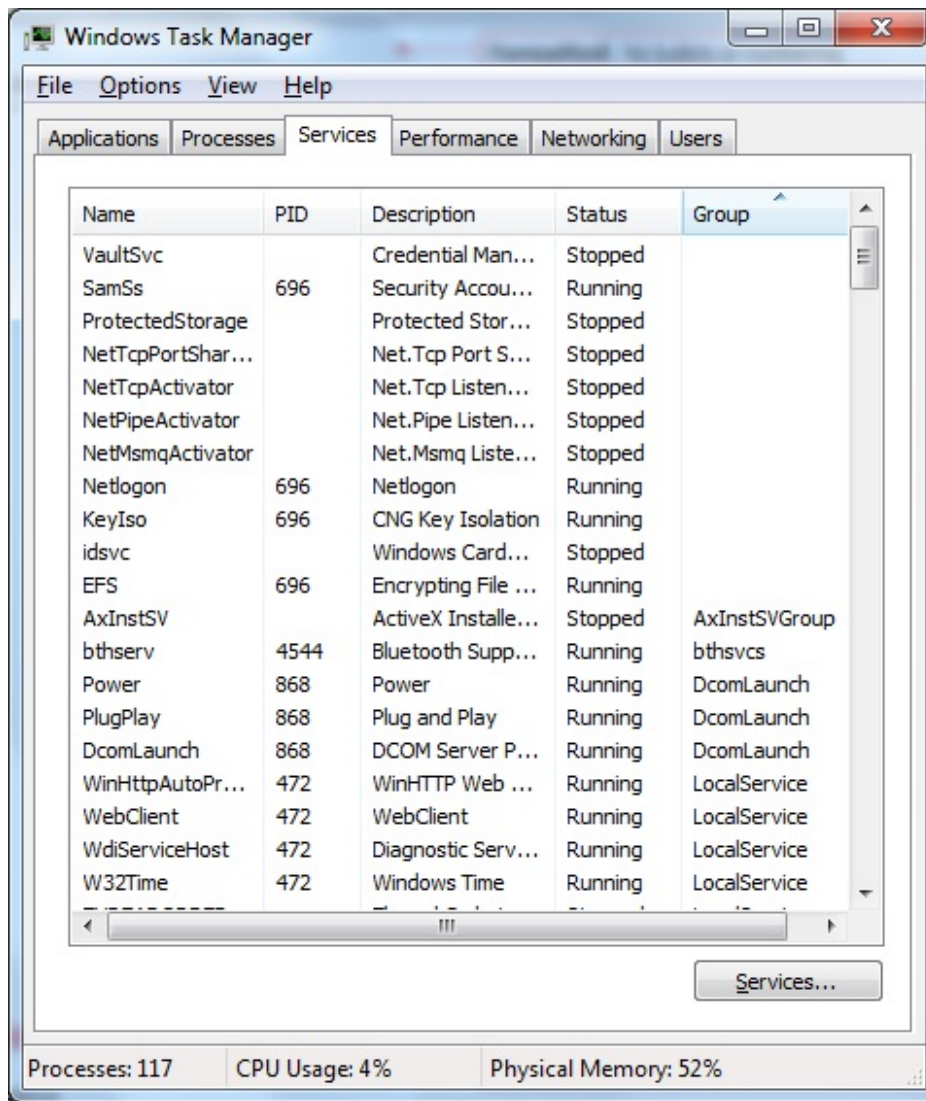
The Applications tab lists all the applications that are running, as shown in the following exhibit:



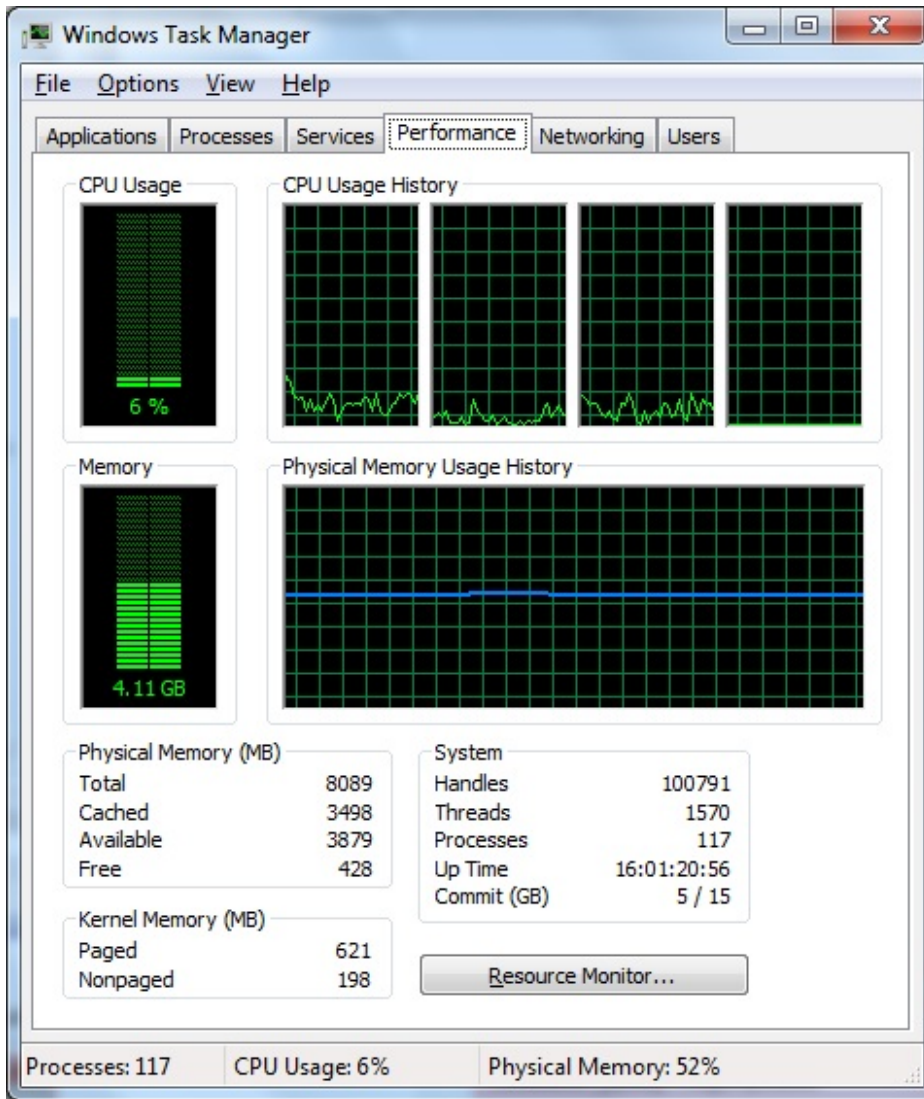
The Processes tab lists all the processes that are running, as shown in the following exhibit:



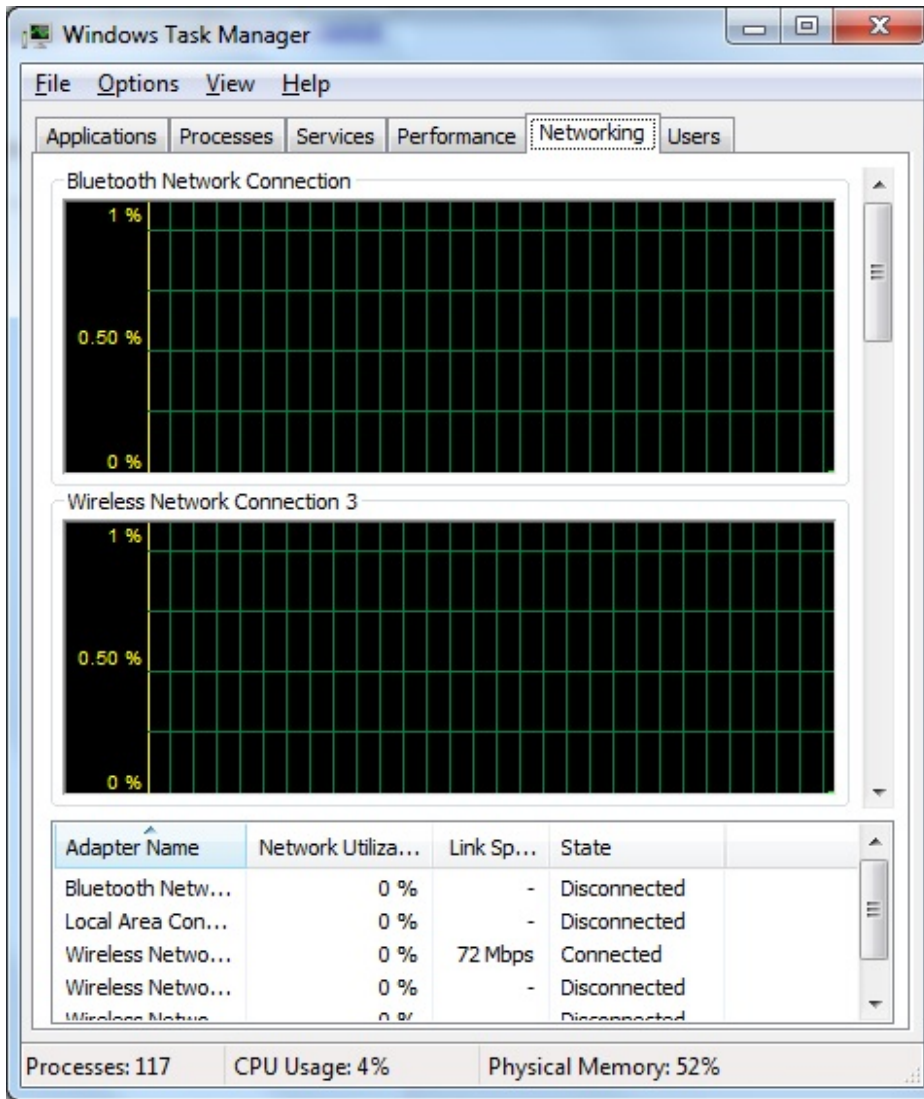
The Services tab lists all the services that are running, as shown in the following exhibit:



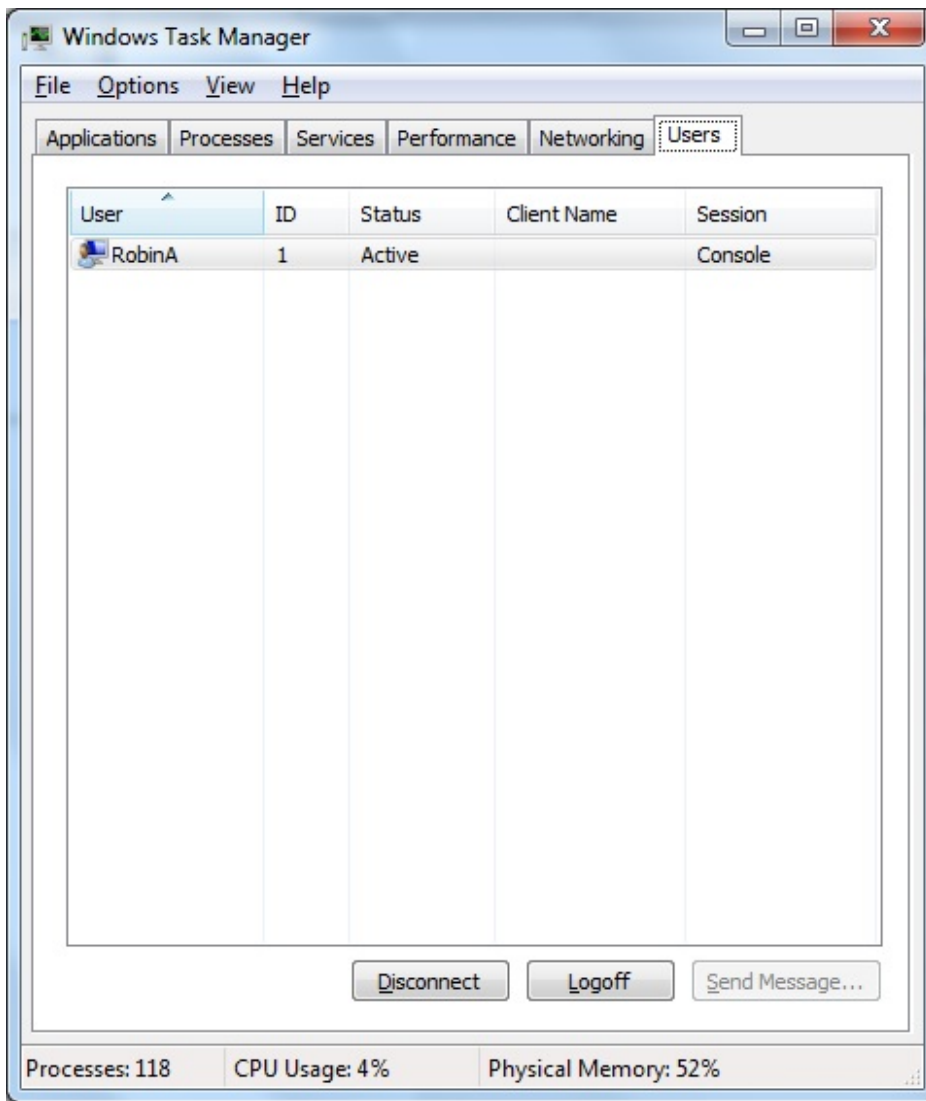
The Performance tab lists current hardware performance statistics, as shown in the following exhibit:



The Networking tab lists current network performance statistics, as shown in the following exhibit:



The Users tab lists current users connected to the computer, as shown in the following exhibit:



If you click Start and select Devices and Printers, you can view all the printers and other external devices and manage print jobs and queues. You can also add new external devices and printers.

Another printer management tool in Windows 7 and higher is `printmanagement.msc`, which manages current print jobs and queues.

If you click Start, Control Panel, and System and Security, you can access Windows Firewall, Windows Update, Backup and Restore, and other system and security programs.

If you right-click the Computer icon on your desktop and select Properties, you open the System console. This displays computer-specific information such as installed CPU type, operating system version, and amount of RAM.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

How to Start Task Manager in Windows 7, http://www.ehow.com/how_5743745_start-task-manager-windows-7.html

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #38 of 99

Question ID: 1202763

You need to download and install critical system updates, security patches or hotfixes, and upgrades for Windows components. Which Windows utility allows you accomplish this?

- X A) System Restore
- ✓ B) Windows Update
- X C) File and Settings Wizard
- X D) Recovery Console

Explanation

The Windows Update utility allows you to download and install critical system updates, security patches or hotfixes, and upgrades for Windows components. Windows Update is Microsoft's Web-based software update service. In the browser's Address bar, type <http://update.microsoft.com> to open the Windows Update web site or use the Windows Update option in the Tools menu of the Internet Explorer to open the Windows Update web site. The Windows Updates utility can handle driver installation, software, and Windows updates.

The File and Settings Wizard utility will not allow you to download and install critical system updates, security patches or hotfixes, and upgrades for Windows components. By using this utility, you can transfer user files and settings from one computer to another.

The System Restore utility will not allow you to download and install critical system updates, security patches or hotfixes, and upgrades for Windows components. This utility is typically used to repair corrupt or missing system files. For example, if you got a message at boot up indicating the NTLDR is missing, this could be used to restore that file. It can also restore the entire system if needed.

The Recovery Console utility will not allow you to download and install critical system updates, security patches or hotfixes, and upgrades for Windows components. This utility is also used to replace missing and corrupt system files and to enable and disable drivers and services on a computer with a boot up problem.

Keep in mind that you should always run Windows Update immediately following a new operating system installation. This will ensure that all the files are updated per Microsoft recommendations. Often, the files that are included in an installation DVD are not the most recent.

Software updates are also critical. The latest updates will patch known issues and security threats. These updates are vital to ensure that the software is fully protected and functions as expected.

In addition, you should install the latest drivers for your hardware. Driver installation will ensure that the hardware supports all the latest features. Check the manufacturer's Web site for the latest drivers.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Windows Update, <http://update.microsoft.com/>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #39 of 99

Question ID: 1202766

You need to refresh the group policy settings. Which command-line utility should you use?

- ✓ **A) GPUPDATE**
- X **B) GPFIXUP**
- X **C) GPRESULT**
- X **D) You cannot do this from a command line.**

Explanation

To refresh group policy settings, use the GPUPDATE command-line utility. The syntax for the command is:

Gpupdate [/target:{computer|user}] [/force] [/wait:value] [/logoff] [/boot]

The parameters are:

- /target:{computer|user} - processes only the computer settings or the user settings.
- /force - overrides any optimization and forces reprocessing of all policies.
- /wait:value - specifies the wait time to completion. Default time is 600 seconds, but 0 means no wait, and -1 means to wait indefinitely for it to complete.
- /logoff - logs off after the refresh is complete.
- /boot - reboots the computer after the refresh is complete.

The GPRESULT command is not correct, as it determines what the result set of the policies should be. The syntax of GPRESULT is:

Gpresult [/s computer [/u domain\user /p password]] [/user TargetUserName] [/scope {user|computer}] [/v] [/z]

The parameters are:

- /s computer - specifies the name or IP address of a remote computer
- /u domain\user - runs the commands with a specific user's credentials
- /p password - the password for the /u user
- /user TargetUserName - specifies the remote user
- /scope {user|computer} - displays either the user or computer results
- /v - displays verbose policy information
- /z - use this to direct output to a text file, such as gpresult /z>user1policy.txt

GPFIXUP is not correct, as it is used to resolve domain name dependencies.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use appropriate Microsoft command line tools.

References:

Refresh Group Policy settings with GPOUpdate.exe, [https://technet.microsoft.com/en-us/library/cc739112\(v=ws.10\).aspx](https://technet.microsoft.com/en-us/library/cc739112(v=ws.10).aspx)

Determine Resultant Set of Policy with GPRresult.exe, [https://technet.microsoft.com/en-us/library/cc756960\(v=ws.10\).aspx](https://technet.microsoft.com/en-us/library/cc756960(v=ws.10).aspx)

Five Command Line Tools for Managing Group Policy, <https://technet.microsoft.com/en-us/magazine/gg277500.aspx>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.4 Given a scenario, use appropriate Microsoft command line tools

Question #40 of 99

Question ID: 1202765

Windows is reporting that a system file is corrupt on a Windows computer. You have already run chkdsk /f and rebooted the machine, but the error message shows that the file is still corrupt.

Which command-line tools would you use next?

- ✓ **A) sfc**
- X **B) nslookup**
- X **C) dism**
- X **D) diskpart**

Explanation

System File Checker (SFC) is the tool that fixes corrupt system files. To identify which system files need repair, run `sfc /verifyonly`. To repair those files, run `sfc /scannow`.

The `nslookup` command tells you the DNS server name and its IP address and other DNS information.

The Deployment Image Servicing and Management (`dism`) command is used with Windows system image files. It can be used to create a Windows image in the `.wim` format or `.vhx/.vhdx` format.

Diskpart is a command-line tool to manage disk partitions or partitions on an external drive, such as a USB drive.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use appropriate Microsoft command line tools.

References:

Fix: Corrupted system files on Windows 10, <https://windowsreport.com/corrupted-system-files-windows-10/>

Question #41 of 99

Question ID: 1176365

You need to view the contents of a Windows 10 update. Which command-line tool should you use?

- X **A) EXTRACT**
- X **B) XCOPY**
- X **C) COPY**
- ✓ **D) EXPAND**

Explanation

You can view the contents of a Windows 10 update file by using the `EXPAND` command. `EXPAND` also works on Windows 7 and Windows 8/8.1.

`EXTRACT` allowed you to pull one or more files out of a CAB file. This command was deprecated in Windows XP and above.

`COPY` allows you to duplicate a file or folder.

`XCOPY` duplicates a folder, including subfolders and files.

To use the `EXPAND` command, run the `CMD` command to open the command-line prompt, and then type `EXPAND`. The command line options are as follows:

- `-r` - renames expanded files

- -D - displays the list of files in the source file
- Source - specifies the source file to use
- -F:filename - specifies the name of the files to expand from the source file
- Destination - specifies the destination location

For the A+ exam, you also need to understand the HELP and EXIT commands. The HELP command can be used to display the contents of the help file for a command. The EXIT command is used to exit a script or batch file.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use appropriate Microsoft command line tools.

References:

Expand, <https://technet.microsoft.com/en-us/library/bb490903.aspx>

Microsoft DOS expand command, <https://www.computerhope.com/expandhl.htm>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.4 Given a scenario, use appropriate Microsoft command line tools

Question #42 of 99

Question ID: 1176332

Which Microsoft utility provides drive-level encryption?

- ☐ A) Symantec Drive Encryption
- ☒ B) BitLocker
- ☐ C) DiskCryptor
- ☐ D) TrueCrypt

Explanation

BitLocker, sometimes referred to as Bit-Locker, is Microsoft's utility that provides drive-level encryption. It is available on Windows 7 Ultimate, Windows 7 Enterprise, Windows 8/8.1 Professional, Windows 8/8.1 Enterprise, Windows 10 Pro, Windows 10 Enterprise, and Windows 10 Education.

None of the other options are drive encryption technologies from Microsoft. TrueCrypt is an open source utility that is no longer in production. It is recommended that its users migrate to BitLocker. Symantec Drive Encryption is a Symantec utility. DiskCryptor is an open source product. As such, it is not a Microsoft utility.

For the A+ exam, you need to understand the corporate versus personal needs of BitLocker. It is necessary to determine if you have the need for BitLocker prior to selecting which edition of the operating system to install. While you can upgrade

later to an edition that has BitLocker, it is easier to initially install the appropriate edition to support BitLocker.

BitLocker provides administrators with the ability to encrypt the contents of an entire drive. BitLockerToGo allows administrators to encrypt the contents of flash drives.

If you enable BitLocker, you should backup the BitLocker key to a file or flash drive or print it.

Objective:

Operating Systems

Sub-Objective:

Compare and contrast features of Microsoft Windows versions.

References:

A beginner's guide to BitLocker, Windows' built-in encryption tool, <http://www.pcworld.com/article/2308725/a-beginners-guide-to-bitlocker-windows-built-in-encryption-tool.html>

So long, TrueCrypt: 5 alternative encryption tools that can lock down your data,

<http://www.pcworld.com/article/2304851/so-long-truecrypt-5-encryption-alternatives-that-can-lock-down-your-data.html>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1. 2 Compare and contrast features of Microsoft Windows versions

Question #43 of 99

Question ID: 1176367

A user contacts you regarding the Windows Update settings on his Windows 7 computer. He wants Windows Updates set back to its default setting. Which setting should you configure?

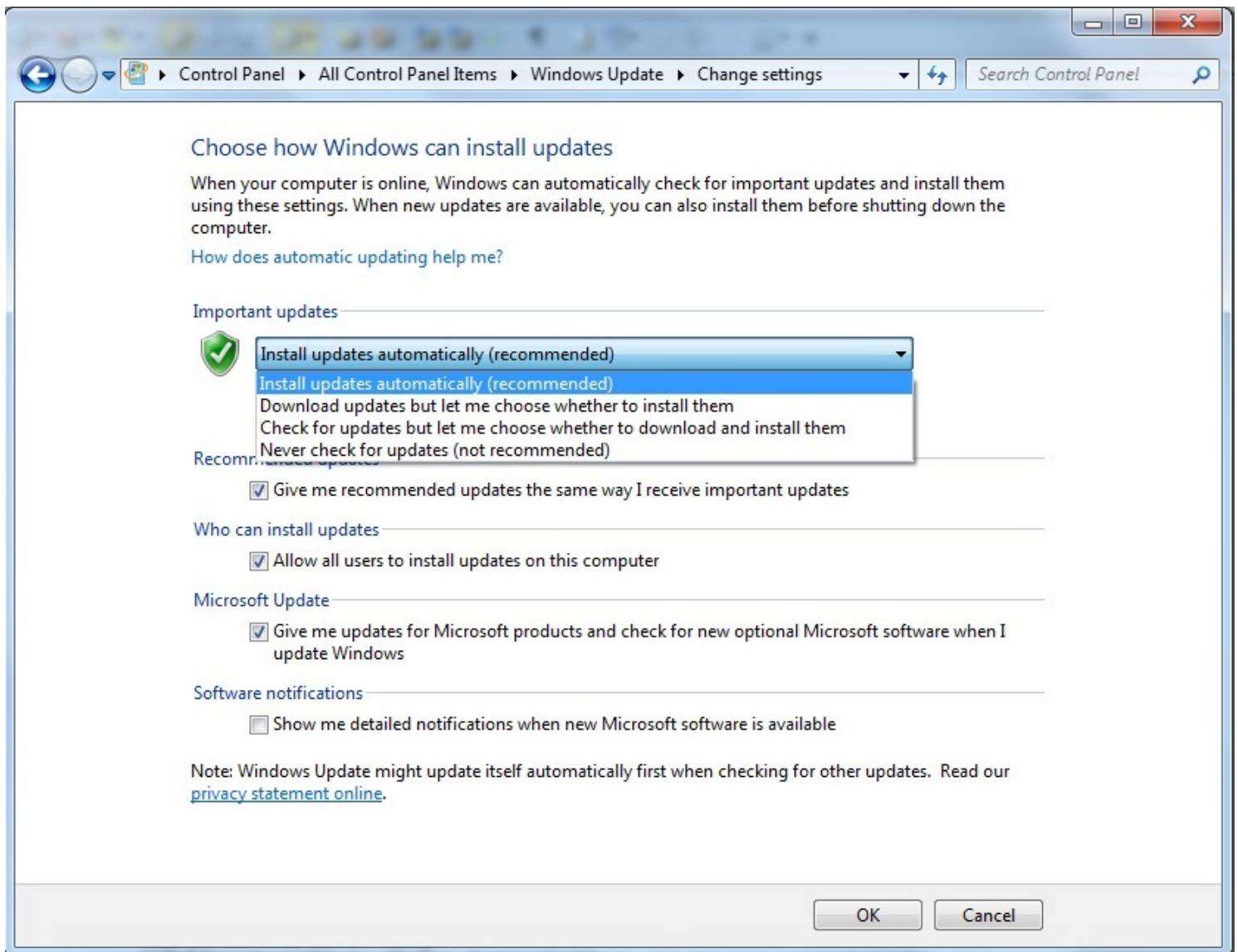
- X **A)** Check For Updates But Let Me Choose Whether To Download and Install Them
- X **B)** Never Check For Updates
- X **C)** Download Updates But Let Me Choose Whether to Install Them
- ✓ **D)** Install Updates Automatically

Explanation

The default setting for Windows Update is Install Updates Automatically. If a user does not specifically configure a date/time setting, the computer will check for updates at 3:00 a.m. every day.

None of the other settings is the default setting.

The settings for Windows Update are shown in the following exhibit:



If you set the computer to the Download updates but let me choose whether to install them option, your computer will automatically receive updates from Microsoft, but the installation of the updates will not interfere with what you are doing.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

Where to Find the Settings for Windows Update, <https://www.digitalcitizen.life/how-configure-windows-update-settings>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #44 of 99

You are a new member of a workgroup, and you need to print a document. You do not have a printer attached to your computer, but a co-worker does. Other employees can print to that printer. What is the easiest way to print your document on the coworker's printer?

- X **A)** Disconnect the printer from the co-worker's machine, and connect it to yours.
- X **B)** Create a network shared printer by connecting the printer to the network, and assign an IP address to the printer.
- ✓ **C)** Ask the co-worker to give you permissions to print to the printer.
- X **D)** Email the document to your co-worker.

Explanation

The easiest way to print your document and solve similar issues in the future is to ask the co-worker to give you permissions to print to the printer. A shared printer is one that is attached to a local machine. The local machine owner can choose with whom to share the printer. This is an ideal situation for printing in a workgroup.

To share a printer, select Devices and Printers in Control Panel, right-click the printer, and select Sharing. On the Sharing tab of the printer's Properties dialog box, select the Share this printer option and enter a Share name for the printer. To share a printer, you must turn on file and printer sharing.

Neither disconnecting the printer nor emailing the document is a long-term solution.

Connecting a network shared printer would not be appropriate in a workgroup where a co-worker has a printer attached to her computer and others can already print to it. A network printer is attached to the network either wirelessly or by an Ethernet cable. It is available to anyone on the same network. You can browse for a printer, select a shared printer by name, or add a printer using a TCP/IP address or hostname. You can attach a computer to a network printer using network printer mapping.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

Share your network printer, <https://support.microsoft.com/en-us/help/4089224/windows-10-share-network-printer>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #45 of 99

Question ID: 1176399

A user has contacted you requesting help with an operating system configuration issue. From your computer, you configure an Offer Remote Assistance invitation. What is a valid reason for not being able to create a Remote Assistance connection to the user's computer?

- ✓ **A)** Your user account is not a member of the Administrators group on the user's computer.
- X **B)** Your user account is not a member of the Power Users group on the user's computer.
- X **C)** Your user account is not a member of the Power Users group on your computer.
- X **D)** Your user account is not a member of the Administrators group on your computer.

Explanation

To be able to establish a Remote Assistance session, your user account must be a member of the Administrators group on the user's computer or be configured as a member of the Remote Assistance Helpers group in Group Policy.

None of the other group membership configurations would help in this scenario.

Remote Assistance invitations can be issued by the user needing the help or by the technician offering the help. Remote Assistance allows both the local and remote user to control the computer. Remote Desktop allows only the remote user to control the computer.

There are other Windows network features and components you should be familiar with for the A+ exam. These features include proxy settings, firewall settings, alternate IP address settings, and network card properties.

Proxy settings identify a proxy server on the local network that is used to access the Internet. All Internet connections are routed through this proxy server. The proxy server utilizes Network Address Translation (NAT) to translate communication between the Internet and the private network.

Firewall settings are configured in the Windows Firewall console, which is located in Control Panel. This software protects the local computer from remote connections that can harm the computer. In Windows 7 and higher, Windows Firewall has separate settings for private and public networks. When configuring a firewall, you should configure rules and exceptions. A rule is a configuration setting that filters traffic based on port, application, or service. Rules can allow or deny connections. Exceptions are configured to override the rules. For example, you may have configured a rule that does not allow a particular service. Later, if someone needs to use that service to connect to your computer, you could configure an exception to allow only that user's connection. On the General tab of Windows Firewall, you can enable or disable Windows Firewall. Keep in mind that disabling Windows Firewall could result in security issues. On the General tab, you can also select the Don't Allow Exceptions option, which is recommended when in an unsecure location.

An alternate IP address is particularly useful to ensure that you can connect to a network in the event that the first choice for connection is not available. For example, you could have dynamic addressing as your first option. This would only work if DHCP were operational on the network. You could then configure an alternate static IP address configuration that would be used if the DHCP server could not be contacted. On the Alternative Configuration tab there are two types of addressing

allowed: Automatic Private IP Addressing (APIPA) or User Configured. The APIPA option implements an address in the APIPA range. The User Configured requires that you enter a static IP address, subnet mask, default gateway, and DNS server.

Network card properties can be used to optimize the performance of the network card. These properties that you should understand include duplexing, speed, Power over Ethernet (PoE), and Quality of Service (QoS).

Duplexing is how communication takes place. There are three duplexing options: full duplexing, half duplexing, and auto duplexing. Full duplexing allows a network card to send and receive at the same time. Half duplexing allows a network card to send or receive in only one direction at a time. Full-duplex mode is twice as fast as half-duplex mode. Auto duplexing means that the network card will configure itself to the mode of the network device that is operating at the lowest capacity.

The speed of the network card is different from duplexing. The speed is determined by the media used on the network. Make sure that the network card is compatible with the network on which it will be running. A network card can only operate at the highest speed allowed by the network. Even if the network card is capable of a high speed, it cannot run at that speed if the cable is not capable of it.

PoE allows an Ethernet connection to provide both Ethernet communication and electrical power.

QoS allows an administrator to control the flow of traffic based on priorities. This ensures that more critical communication is given preference if network bandwidth is limited.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

Administering Remote Assistance, <http://technet.microsoft.com/en-us/library/bb456978.aspx>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #46 of 99

Question ID: 1176349

You need to upgrade a Windows 7 Home Premium computer to Windows 8 Home Premium. What should you do prior to the upgrade?

- X **A)** Install the latest version of the device drivers.
- X **B)** Install the latest application updates.
- ✓ **C)** Install the latest service pack.
- X **D)** Uninstall the anti-virus software.

Explanation

Prior to upgrading Windows 7 Home Premium to Windows 8 Home Premium, you should install the latest service pack. In addition, you should upgrade the anti-virus software, perform a virus scan, and then disable the virus software. Note: Make sure to re-enable the anti-virus software after the upgrade.

In addition, you should make sure the hardware is compatible with Windows 8. You also may need to update the BIOS firmware.

You should not uninstall the anti-virus software, install the latest version of the device drivers or install the latest application updates. None of these steps is necessary to perform the operating system upgrade.

Prior to upgrading from Windows 7 to Windows 8, you should use the Windows 8 Upgrade Assistant (updateable to 8.1) to check for compatibility. The Upgrade Assistant will make sure that your current operating system is up-to-date before it proceeds with the update. It is also necessary to install the latest service packs.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Upgrade Windows 7 to Windows 8 Step-by-step Guide, <https://www.gigabyte.com/WebPage/104/step-upgrade.html>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #47 of 99

Question ID: 1202767

You know you saved a file named FILECHK in the D:\MYDOCS directory, but you do not remember the location or the extension. You run the dir D:\MYDOCS\FILECHK.* /S command. What would this command accomplish?

- ✓ **A)** It locates all the files and directories that have the name FILECHK with any file extension in the MYDOCS directory of drive D, including the subdirectories.
- X **B)** It locates a file named FILECHK.* on the default drive.
- X **C)** It locates all files that have names starting with FILECHK in the MYDOCS directory of drive D, including the subdirectories.
- X **D)** It locates all files that have names starting with FILECHK on the default drive.

Explanation

The dir command locates all the files and directories that belong to the specified path and match the file name specified as part of the command. The D:\MYDOCS\FILECHK.* specification matches any file or directory that has the name FILECHK and any extension. The search starts with the D:\MYDOCS directory and searches all the subdirectories, as specified by the /s switch.

There is no file that is literally named FILECHK.*. The * extension in the command is a wildcard designation that will match any number of any characters. Windows and DOS filename conventions do not allow the use of the * character in an actual file or directory name.

The command specifies that the dir command will scan drive D, not the default drive. The default drive is searched by the dir command only if the drive is not specified as a part of the command.

The dir command locates both files and directories. MS-DOS and Windows naming conventions allow the use of extensions in directory names. Therefore, the command will display not only files but also directories.

To display all of the parameters for the dir command, enter dir /? at the command prompt, as shown in the following exhibit:

```

Administrator: C:\Windows\System32\cmd.exe

C:\>dir /?
Displays a list of files and subdirectories in a directory.

DIR [drive:][path][filename] [/A[[:attributes]] [/B] [/C] [/D] [/L] [/N]
 [/O[[:sortorder]] [/P] [/Q] [/R] [/S] [/T[[:timefield]] [/W] [/X] [/4]

[drive:][path][filename]
    Specifies drive, directory, and/or files to list.

/A
attributes    Displays files with specified attributes.
               D Directories                      R Read-only files
               H Hidden files                      A Files ready for archiving
               S System files                      I Not content indexed files
               L Reparse Points                    - Prefix meaning not
/B            Uses bare format (no heading information or summary).
/C            Display the thousand separator in file sizes. This is the
               default. Use /-C to disable display of separator.
/D            Same as /W but files are list sorted by column.
/L            Uses lowercase.
/N            New long list format where filenames are on the far right.
/O            List by files in sorted order.
sortorder     N By name (alphabetic)                S By size (smallest first)
               E By extension (alphabetic)           D By date/time (oldest first)
               G Group directories first              - Prefix to reverse order
/P            Pauses after each screenful of information.
/Q            Display the owner of the file.
/R            Display alternate data streams of the file.
/S            Displays files in specified directory and all subdirectories.
/T            Controls which time field displayed or used for sorting
timefield     C Creation
               A Last Access
               W Last Written
/W            Uses wide list format.
/X            This displays the short names generated for non-8dot3 file
               names. The format is that of /N with the short name inserted
               before the long name. If no short name is present, blanks are
               displayed in its place.
/4            Displays four-digit years

Switches may be preset in the DIRCMD environment variable. Override
preset switches by prefixing any switch with - (hyphen)--for example, /-W.

C:\>

```

For most Windows commands, entering the command with the /? parameter will give you a description of the command and its parameters.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use appropriate Microsoft command line tools.

References:

Dir, <https://docs.microsoft.com/en-us/windows-server/administration/windows-commands/dir>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.4 Given a scenario, use appropriate Microsoft command line tools

Question #48 of 99

Question ID: 1202779

You are providing remote support to a user with a Windows-based computer. Which key combination should you tell the user to press to reboot the computer, open the Task Manager, or open the Windows Security window?

- X **A)** Ctrl + A
- X **B)** Ctrl + Esc
- ✓ **C)** Ctrl + Alt + Del
- X **D)** Alt + Tab

Explanation

You should press the Ctrl + Alt + Del key combination to open the Task Manager or the Windows Security window, or to reboot the computer. By pressing this key combination, you can open the Task Manager windows or restart a computer running Windows. In Windows computers, you can open the Windows Security window that can be used to lock, log off, or shut down the computer. Using the Windows Security window, you can also change the user password or open the Task Manager window.

You should not press the Ctrl + Esc key combination to open the Task Manager or the Windows Security window, or to reboot the computer. This key combination is used to bring up the Start menu.

You should not press the Ctrl + A key combination to open the Task Manager or the Windows Security window, or to reboot the computer. This key combination is used to select all icons on a desktop or a window.

You should not press the Alt + Tab key combination to open the Task Manager or the Windows Security window or to reboot the computer. This key combination is used to switch between multiple running applications.

For the A+ exam, you need to be familiar with the following Windows Administrative applications or tools:

- Computer Management - This console includes Device Manager, Event Viewer, Shared Folders, Performance/Performance Logs and Alerts (depending on the operating system), and possibly Local Users and Groups and Task Scheduler. This is the console you would open for most computer management tasks.

- **Device Manager** - This console can be accessed in many different manners, but is usually accessed via the Computer Management console or Control Panel. It lists all installed hardware and allows you to add and remove hardware, update drivers, and reconfigure hardware.
- **Users and Groups** - For computers in a workgroup environment, this console is called Local Users and Groups. For computers in a domain environment, the console used is Active Directory Users and Computers. In either network environment, this is where you configure user and group accounts, including password settings. In Windows 7 deployments, you must have at minimum Windows 7 Professional to access the Local Users and Groups console. In Windows 8, this feature is only available in the Pro version.
- **Local Security Policy** - You can edit the local security policy by running secpol.msc. This allows you to configure local security settings, including password policies and audit policies. For Windows 7, the local security policy can only be configured in Windows 7 Professional or higher. For Windows 8, this feature is only available in the Pro or Enterprise version.
- **Performance Monitor** - While Performance Monitor differs depending on the operating system, its purpose is the same: to use performance counters to gather performance statistics. Usually two tools are tied together: System Monitor and Performance Logs and Alerts.
- **Services** - This console can be opened by running services.msc at the Run command line. It can also be accessed in the Computer Management console or Administrative Tools. It is used to start, stop, or pause services.
- **System Configuration** - This tool can be accessed by running msconfig at the command line. This tool includes five tabs: General, Boot, Services, Startup, and Tools. It is mainly used to troubleshoot startup issues.
- **Task Scheduler** - This tool allows you to schedule jobs to run. The jobs you can run include backup tasks, disk defragmentation tasks, and other maintenance jobs. You can schedule the jobs to run once, daily, weekly, monthly, at startup, or at logon.
- **Component Services** - This tool is in Administrative Tools and is used to manage component services.
- **Data Sources** - This tool is also located in Administrative Tools and is used to manage how a computer connects to a data provider.
- **Print Management** - This tool is available in Windows 7 or higher. It allows you to manage printers and print servers.
- **Windows Memory Diagnostics** - This tool is available in Windows 7 and higher, and is used to check for memory problems. It requires a system reboot. At the reboot, the memory test will run.
- **Windows Firewall** - This tool is accessed from the Control Panel and is used to configure firewall settings on the local computer.
- **Advanced Security** - This part of Windows firewall is available in Windows 7 and higher. Windows Firewall with Advanced Security is more powerful than Windows Firewall and can manage security associations and security rules.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

Windows Task Manager: A Troubleshooting Tool,

https://www.pcworld.com/article/224448/windows_task_manager_troubleshooting_tips.html

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #49 of 99

Question ID: 1176396

You need to connect to the Internet at a client site. The system administrator gives you an SSID of Workplace 1 and a password. Which network type are you going to use to connect to the Internet?

- X A) broadband
- X B) VPN
- X C) dial-up
- ✓ D) wireless

Explanation

You are going to use a wireless network to connect to the Internet. The SSID identifies the name of the network to which you are trying to connect.

None of the other options use an SSID to identify the network. A VPN connection uses a public network connection, such as the Internet, to connect to a private network via a tunneled connection. A broadband connection provides a wired connection to the Internet. A dial-up connection provides a wired connection over regular telephone lines.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

How to Connect to Wireless Networks in Windows 7, <http://www.digitalcitizen.life/how-connect-wireless-networks>

How to Connect to a VPN in Windows, <http://www.howtogeek.com/134046/how-to-connect-to-a-vpn-in-windows/>

Create a Dial-Up Networking connection on Windows 7, <https://support.earthlink.net/articles/dialup/create-a-dial-up-networking-connection-on-windows-7.php>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #50 of 99

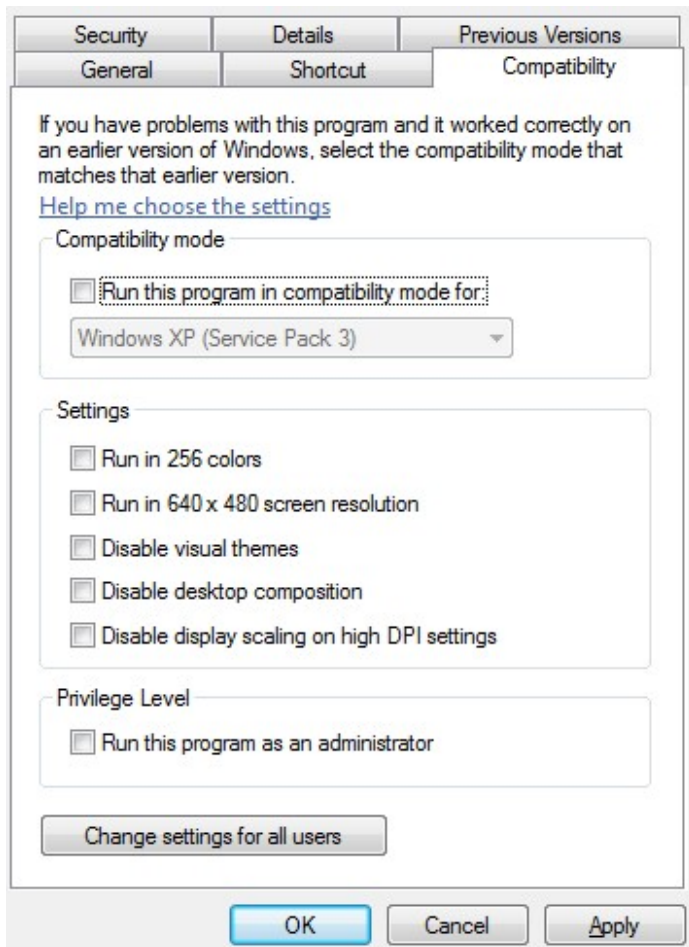
Question ID: 1202788

You have an application that will only run properly on Windows XP Professional. The application is installed on a user's Windows 7 computer. You right-click the application and select Properties. Which tab should you select to configure the application to run in a Windows XP environment?

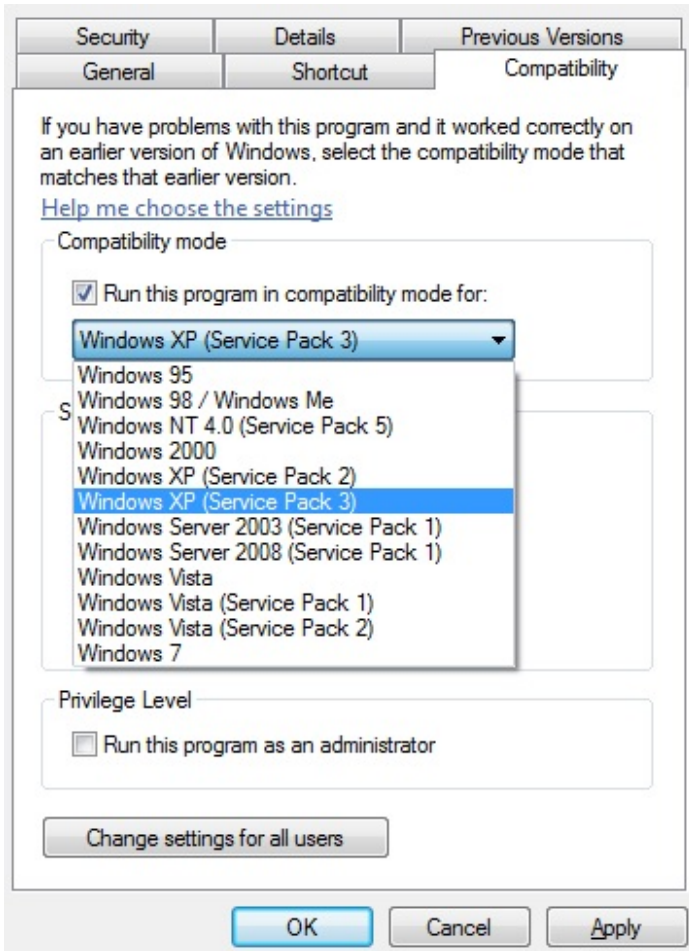
- X **A)** The Security tab
- X **B)** The Previous Versions tab
- X **C)** The General tab
- ✓ **D)** The Compatibility tab

Explanation

You should select the Compatibility tab to configure the application to run in a Windows XP environment. You should enable the Run this program in compatibility mode for: option and select the appropriate operating system version from the drop-down menu. This is often referred to as Windows Compatibility Mode, and was first available in Windows XP. The Compatibility tab for an application is shown in the following exhibit:



If you select the Run this program in compatibility mode for: option, you will be able to select from the previous operating systems, as shown in the following exhibit:



In the previous exhibit, the computer was running Windows 8. The list of compatible operating systems will vary depending on the operating system that you are running.

The General tab allows you to configure shortcut keys, file location, and other settings.

The Security tab allows you to configure which users and groups can run the application.

The Previous Versions tab allows you to roll back to a previous version that is located in a restore point. If no restore points have been created, you will be unable to roll back to a previous version.

None of the other tabs will allow you to change the application mode.

Support for Windows XP ended in April 2014. Applications designed to run in Windows XP will not run in Windows 8 or 8.1.

Objective:

Operating Systems

Sub-Objective:

Summarize application installation and configuration concepts.

References:

Make older programs run in this version of Windows, <https://support.microsoft.com/en-us/help/15078/windows-make-older-programs-compatible>

Summarize application installation and configuration concepts

Question #51 of 99

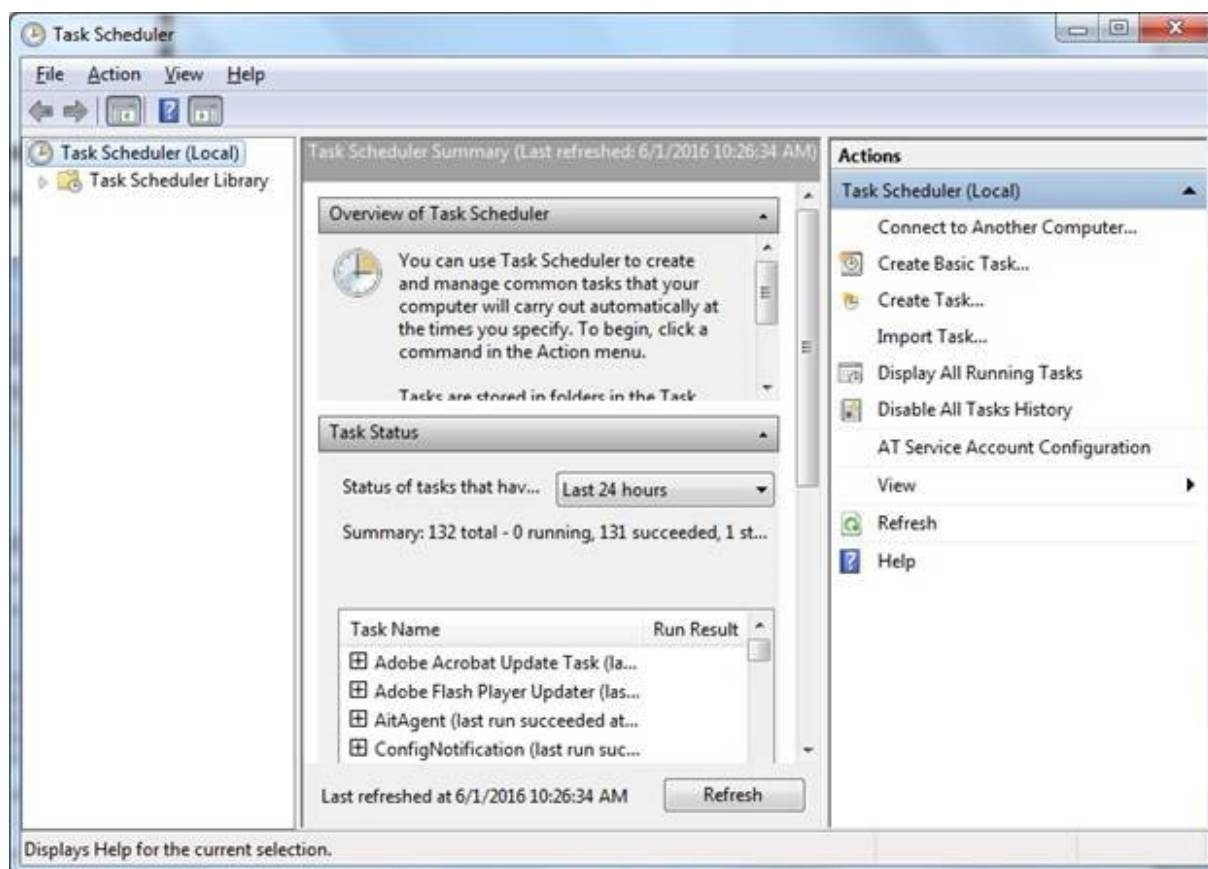
Question ID: 1202774

You need to schedule several disk maintenance tasks on a Windows computer. Where should you go to schedule these tasks?

- X A) Open Task Manager
- X B) Right-click the commands for the tasks
- ✓ C) Open Task Scheduler
- X D) Double-click the commands for the tasks

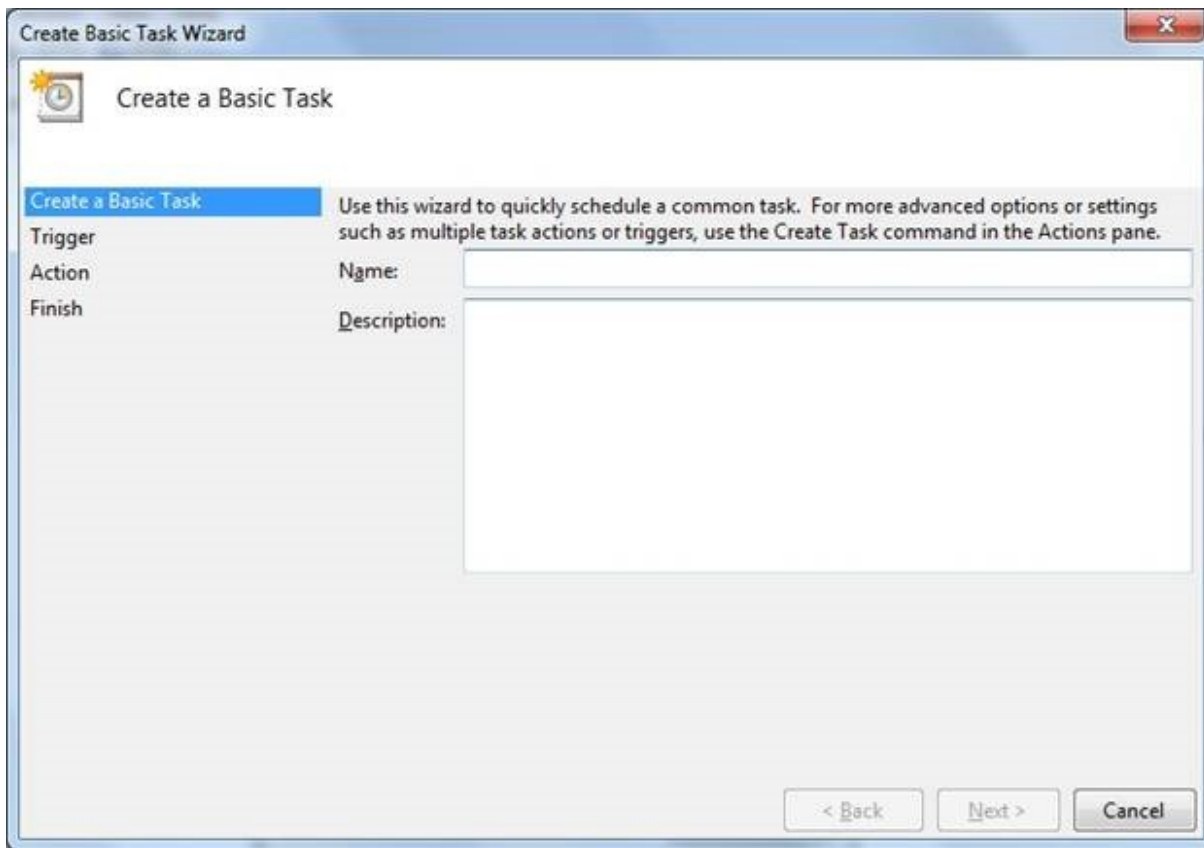
Explanation

You should go to the Actions pane in Task Scheduler to schedule disk maintenance tasks. To get to the Task Scheduler, type Task Scheduler in the search bar. This will open the Task Scheduler console:



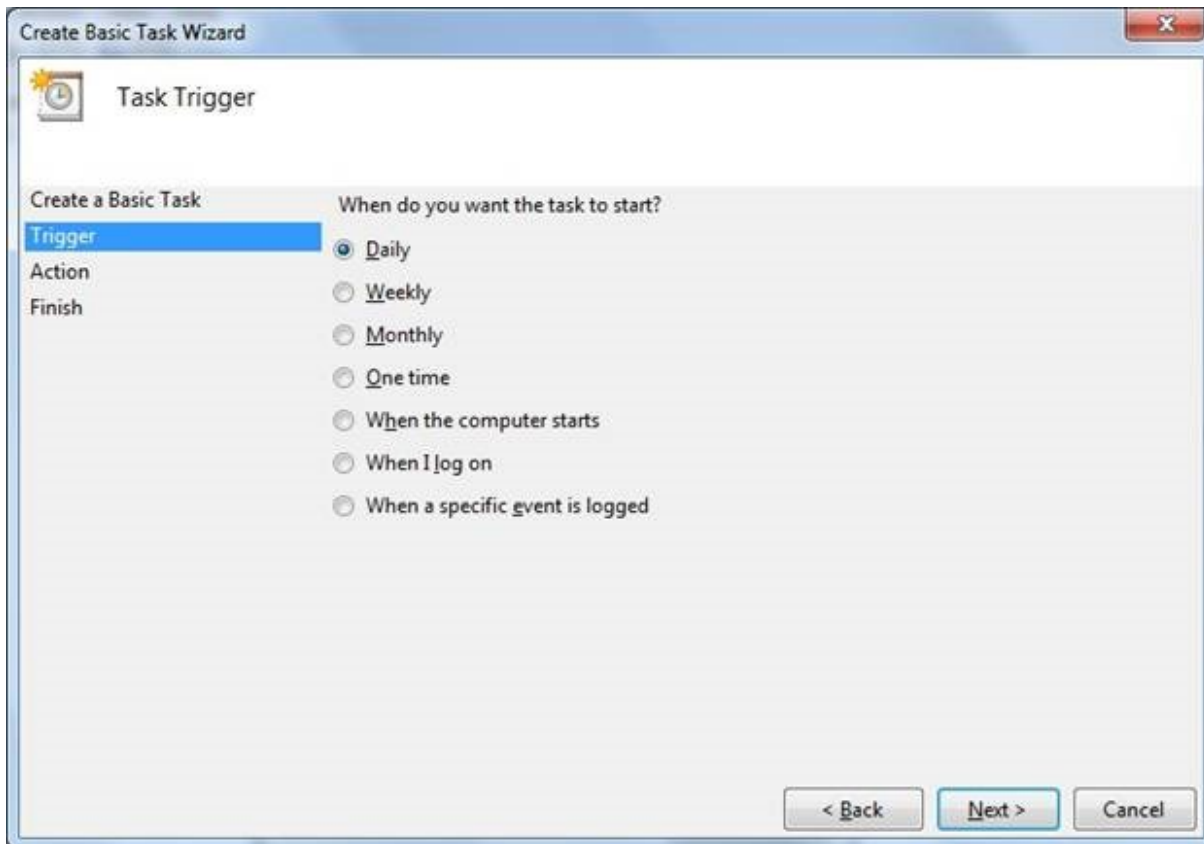
To create a Basic Task, click the Create Basic Task option under Actions in the right-hand panel.

That will open the Create Basic Task Wizard where you enter the task name and description, as shown in the following exhibit:



The screenshot shows the 'Create Basic Task Wizard' window, specifically the 'Create a Basic Task' step. The window has a title bar with the text 'Create Basic Task Wizard' and a close button. Below the title bar is a navigation pane on the left with three items: 'Create a Basic Task' (selected), 'Trigger', 'Action', and 'Finish'. The main area on the right contains the text: 'Use this wizard to quickly schedule a common task. For more advanced options or settings such as multiple task actions or triggers, use the Create Task command in the Actions pane.' Below this text are two input fields: 'Name:' and 'Description:'. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.

In the Task Trigger Window, you schedule how and when the task will automatically run, as shown in the following exhibit:



The screenshot shows the 'Create Basic Task Wizard' window, specifically the 'Task Trigger' step. The window has a title bar with the text 'Create Basic Task Wizard' and a close button. Below the title bar is a navigation pane on the left with four items: 'Create a Basic Task', 'Trigger' (selected), 'Action', and 'Finish'. The main area on the right contains the text: 'When do you want the task to start?'. Below this text are seven radio button options: 'Daily' (selected), 'Weekly', 'Monthly', 'One time', 'When the computer starts', 'When I log on', and 'When a specific event is logged'. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.

On the next screen, you will click a scheduled start date and time and other criteria based on the trigger start you select:

Create Basic Task Wizard

Monthly

Create a Basic Task

Trigger

Monthly

Action

Finish

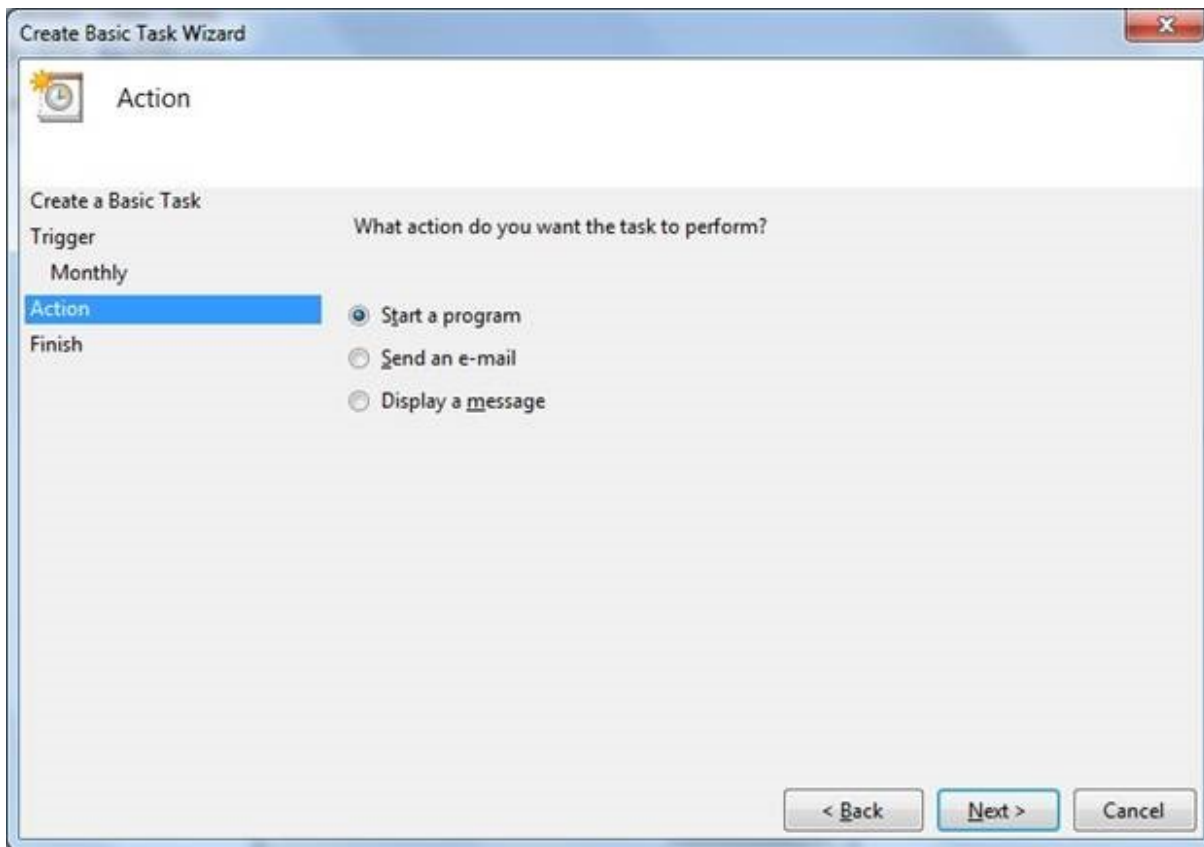
Start: 6/ 1/2016 10:32:41 AM Synchronize across time zones

Months: Days: On:

< Back Next > Cancel

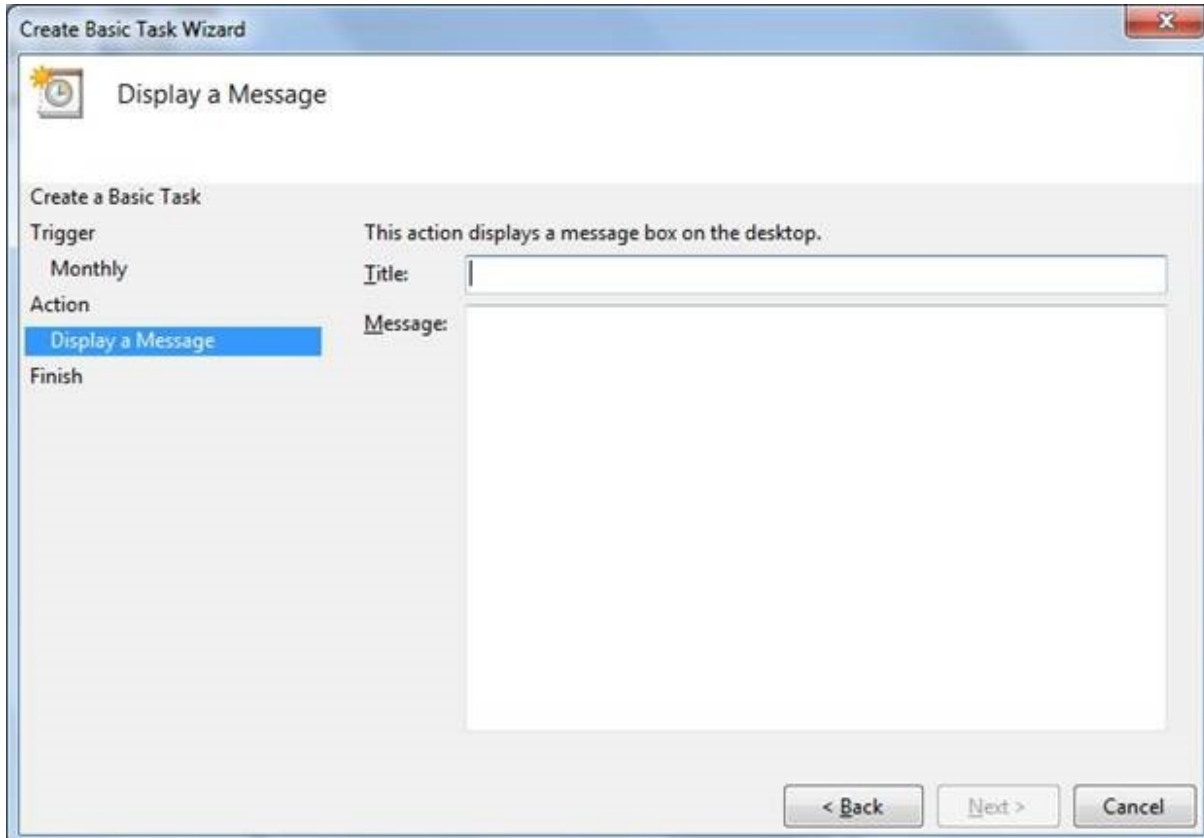
You configure a start date/time, the months that you want the task to run, and the date you want the task to run or specific day (first Monday, second Tuesday, and so on).

Select the type of action that you would like to occur, as shown in the following exhibit. If you choose to start a program, you will have to locate the program. If you choose to send an email, you will have to configure the email address. If you choose to display a message, you will have to enter the message you want to be displayed.



The screenshot shows the 'Create Basic Task Wizard' window at the 'Action' step. The left sidebar contains 'Trigger' (Monthly), 'Action' (selected), and 'Finish'. The main area is titled 'What action do you want the task to perform?' and contains three radio button options: 'Start a program' (selected), 'Send an e-mail', and 'Display a message'. At the bottom right are buttons for '< Back', 'Next >', and 'Cancel'.

In this example, we will choose the Display a message option. Therefore, you will enter the message you wish to display, as shown in the following exhibit:



The screenshot shows the 'Create Basic Task Wizard' window at the 'Display a Message' step. The left sidebar contains 'Trigger' (Monthly), 'Action' (selected), and 'Finish'. The 'Display a Message' option is highlighted in blue. The main area is titled 'Display a Message' and contains the text 'This action displays a message box on the desktop.' Below this text are two input fields: 'Title:' and 'Message:'. The 'Message:' field is a large text area. At the bottom right are buttons for '< Back', 'Next >', and 'Cancel'.

The task will be added to the task list in the Task Scheduler console.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

4 Ways to Open Task Scheduler in Windows 10, <https://www.isunshare.com/windows-10/4-ways-to-open-task-scheduler-on-windows-10.html>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #52 of 99

Question ID: 1176409

You need to change a user's password on a Linux computer. Which command should you use?

- ✓ **A) passwd**
- X **B) vi**
- X **C) chown**
- X **D) pwd**

Explanation

The passwd command changes a user's password. Entering passwd username will allow you to change the password of the specified username.

The pwd command displays the current working directory.

The vi command vi starts the text editor. To edit a file, enter the vi filename command.

The chown command changes the ownership of a file. For example, the chown mrhacker mypassword.txt command would give the mrhacker user ownership of the mypassword.txt file.

For the A+ exam, you must understand the following common basic Linux commands:

- apt-get - allows you to work with the Advanced Packaging Tool and install packages (applications) in Ubuntu, which is a Debian-based distribution.
- cd - changes directory. It is similar to the Windows cd command. For example, the cd / moves you to the root directory, and cd.. moves you to the parent directory.
- chmod - changes the permissions on a file. The basic syntax is chmod user=PermissionList filename. The user parameter can be u for you, g for the group, or o for other. The permission list parameters include r for read, w for

write, x for execute, and - for no access. For example, the `chmod u=rwx,g=r-x, o=r-- myspecialfile` command would give the user read, write and execute access, the group read and execute access, and other users read access.

- `chown` - changes the ownership of the file. For example, the `chown mrhacker mypassword.txt` command would give the mrhacker user ownership of the mypassword.txt file.
- `cp` - copies files and directories.
- `dd` - allows you to copy a file and convert it to another format during the copying process.
- `grep` - finds a pattern of text within a file or group of files. For example, you could find the characters "pwd" in file1.txt, file2.txt and file3.txt by entering the `grep pwd file1.txt file2.txt file3.txt` command.
- `iwconfig` / `ifconfig` - analogous to the `ipconfig` command. The `ifconfig` command is used to view and configure network interfaces. The `iwconfig` command is similar to the `ifconfig` command, but is restricted to wireless interfaces.
- `ls` - lists file and directory contents.
- `mv` - renames or moves a file.
- `ps` - provides a list of current processes running on the system.
- `pwd` vs. `passwd` - The `pwd` command displays the working directory, or the directory that you are currently in. On the other hand, the `passwd` command allows you to change the password of a user account.
- `q` - quits (exits) the vi editor. By itself, the `q` command will allow you to exit the editor if no changes have been made to the file. If you have made changes to the file and wish to keep the changes, enter `wq`. If you wish to discard the changes, enter `q!`.
- `rm` - removes a file.
- `shutdown` - turns off the computer. Adding the `/h` parameter to the command halts the shutdown and adding the `/r` parameter to the command reboots after shutdown.
- `su/sudo` - The `su` command allows you to log on as the superuser (root). The `sudo` command allows a regular user to execute commands as the superuser.
- `vi` - the text editor in Linux. To edit a file, enter the `vi filename` command.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems.

References:

80 useful Linux commands and utilities, <http://searchenterpriseinlinux.techtarget.com/tutorial/77-useful-Linux-commands-and-utilities>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.9 Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems

Question #53 of 99

Question ID: 1202753

Which of the following features of the Microsoft Windows operating system is often better suited for personal needs?

- X **A)** Domain access
- X **B)** BranchCache
- ✓ **C)** Media Center
- X **D)** Locked desktop styles/user interface

Explanation

Windows Media Center is best suited for personal needs. It provides the ability to play multimedia (DVDs and streaming services such as Netflix) from a single interface. It was discontinued with the release of Windows 10.

BranchCache is used in business environments, often where there are multiple locations. BranchCache stores copies of files on local servers in addition to a central server. Local clients retrieve files from the local server as opposed to accessing the same files over the WAN. An example is an insurance company with branch offices in many locations. The company would send the forms (and updates) to the local branch offices. When an agent needs a form, they would access it from the server at their home office.

Domain access is a feature in the professional versions of Windows that is not available in the personal versions. Domain access allows the user to connect to a corporate network.

Locked desktop styles/user interface is a feature used by many organizations. Many businesses will want to disable the user configuration of the desktop styles/user interface. The business may want to have a custom wallpaper displayed for all machines, a uniform screen saver, and only certain icons on the desktop. Home users often want to configure the desktop experience to their liking.

Objective:

Operating Systems

Sub-Objective:

Compare and contrast features of Microsoft Windows versions.

References:

Trick: how to bring Windows Media Center back in your Windows 10, <https://windowsreport.com/windows-media-center-windows-10/>

Question #54 of 99

Question ID: 1202795

You wish to assign a drive letter to a network shared folder so that the user does not have to type in the full path \\FileSrv1\Admin\HumanResources\Forms\Policies\LeaveRequests. How would you do this?

- X **A)** Create an administrative share.
- X **B)** Create a network share.

- ✓ **C)** Map the network drive.
- X **D)** This cannot be done.

Explanation

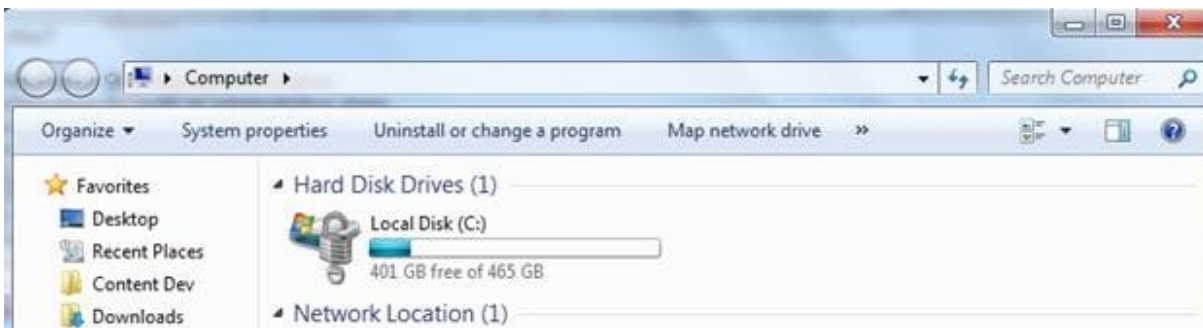
To assign a drive letter to a network shared folder, so that the user does not have to type in the full path \\FileSrv1\Admin\HumanResources\Forms\Policies\LeaveRequests, you should map a network drive. Mapping a drive allows you to assign a drive letter to a network share. This saves the user from typing long, complicated, and prone-to-error paths to the network share.

Administrative shares, or Admin shares, are shares that are hidden. They include Admin\$ (C:\Windows), driveletter\$ (where driveletter is C or D, for example), and IPC\$.

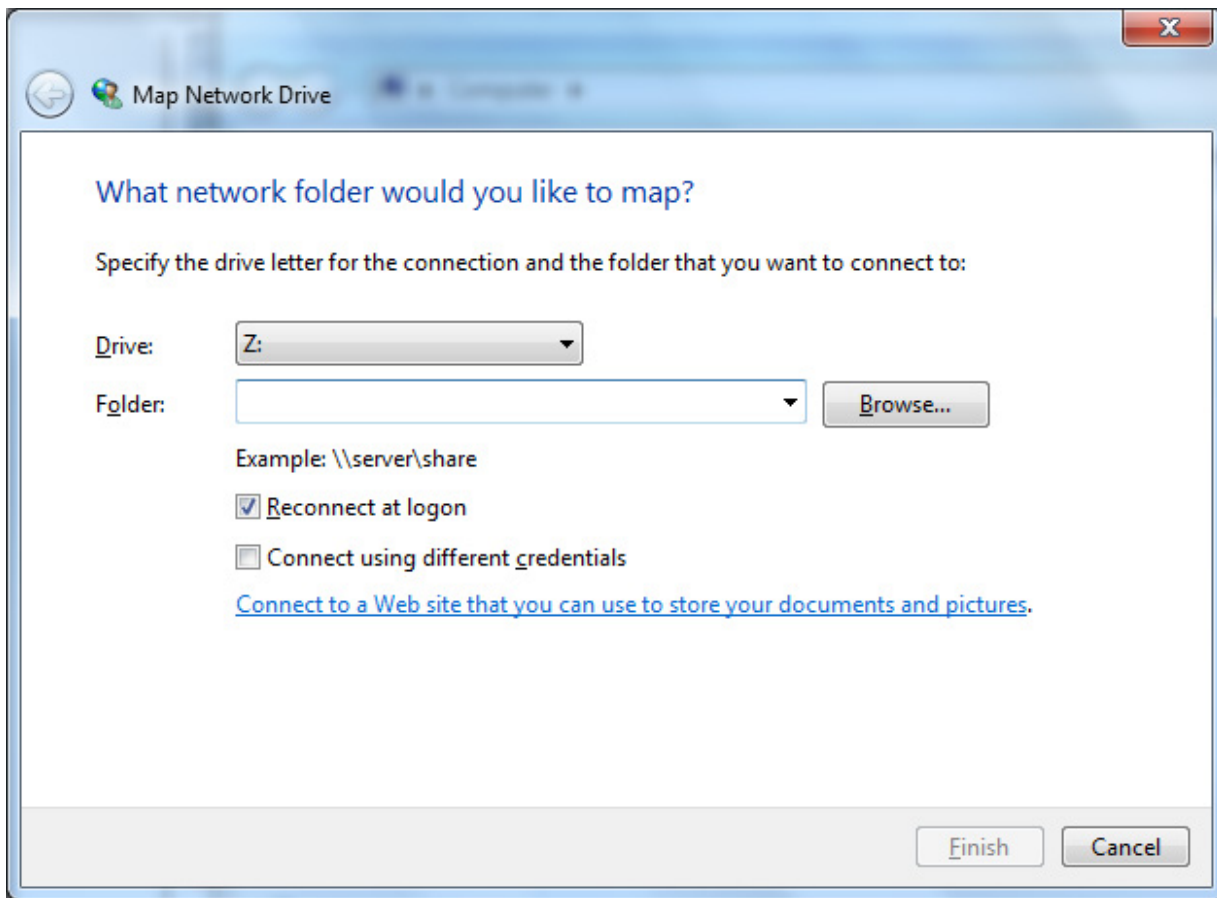
Network shares allow you to share files or folders over the network. A network share would allow you to type the long, complicated address to access files or folder. You still need to map the network drive to make access easier.

To map a network drive, you should complete the following steps:

1. Click Start and Computer.
2. Select the Map network drive option near the top of the screen, as shown in the following exhibit:



3. Select the drive letter from the drop-down menu as shown in the following exhibit, and enter the name of the folder or browse for it.



Select the Reconnect at logon option to ensure that the drive is mapped with each subsequent reboot. Select the Connect using different credentials option to use different login credentials when mapping the drive.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

Create a shortcut to (map) a network drive,

<https://apps.northeaststate.edu/documents/repository/MyNortheast/Map%20a%20Network%20drive%20Windows%207.pdf>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #55 of 99

Question ID: 1176395

You need to connect to the network at a client site. The systems administrator hands you a cable where the connectors have 8 pins each. Which type of network are you about to use?

- X **A)** VPN
- ✓ **B)** wired
- X **C)** WWAN
- X **D)** dial-up

Explanation

You about to use a wired network. The cable described is an Ethernet cable.

A VPN connection uses a public network, such as the Internet, to connect to a private network. A VPN connection will use whatever connection you use to connect to the Internet, wired or wireless.

A wireless wide area network (WWAN) connection is a cellular data connection. Because it is wireless, it does not need a connector.

A dial-up connection uses a standard telephone cable where the connectors have 4 pins each.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

Wi-Fi vs. Ethernet: How Much Better Is a Wired Connection?, <https://www.howtogeek.com/217463/wi-fi-vs.-ethernet-how-much-better-is-a-wired-connection/>

How to Connect to a VPN in Windows, <http://www.howtogeek.com/134046/how-to-connect-to-a-vpn-in-windows/>

Create a Dial-Up Networking connection on Windows 7, <https://support.earthlink.net/articles/dialup/create-a-dial-up-networking-connection-on-windows-7.php>

How to Connect to Wireless Networks in Windows 7, <http://www.digitalcitizen.life/how-connect-wireless-networks>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #56 of 99

Question ID: 1176374

Your company has the Volume Shadow Copy Service (VSS) enabled on all Windows 7 computers. Which feature is tied closely to this service and is also disabled if VSS is disabled?

- X **A)** Offline files

- X **B)** User Account Control (UAC)
- X **C)** Windows Update
- ✓ **D)** System Restore

Explanation

The System Restore feature is tied closely to the Volume Shadow Copy Service (VSS) in Windows 7 and above. This feature is also disabled if VSS is disabled. VSS provides a mechanism for creating consistent point-in-time copies of data, known as shadow copies. System Restore allows you to use a restore point to return a system to a certain point in time.

None of the other features is tied closely to VSS. Offline files allows a user to access a remote file even if the network connection is down. Windows Update is a way of updating the Microsoft operating system and applications. User Account Control (UAC) is a security mechanism that allows users to use regular user accounts for day-to-day activities while using administrative-level accounts to launch administrative tasks.

Another feature that you should be familiar with is ReadyBoost, which allows you to use a removable drive as a cache drive to speed up the computer. This is used when you are low in available memory. The removable drive must have free space.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

Turn off Volume Shadow Copy in Windows 7, <https://www.trishtech.com/2010/08/turn-off-volume-shadow-copy-in-windows-7/>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #57 of 99

Question ID: 1176347

You are setting up a new Windows 8.1 computer. Several people will use this computer. You decide to configure a local user account for each user. You need to ensure that users can control who has access to their files. What should you do?

- ✓ **A)** Use NTFS.
- X **B)** Use smart cards.
- X **C)** Use EFS.
- X **D)** Use FAT.

Explanation

You need to use NTFS to ensure that users can control who has access to their files. With NTFS, you can configure file-level and folder-level security.

FAT will not allow you to configure file-level or folder-level security, which is needed to ensure that users can control who has access to their files.

Encrypting File System (EFS) is a file encryption technology that allows you to encrypt files to ensure that other users cannot read the files. EFS protects the files from being read, but does not ensure that users can control who has access to their files.

Smart cards can be used to authenticate a user. However, smart cards do not provide a way to ensure that users can control who has access to their files.

For the A+ exam, you need to understand the following file system and formatting terms:

- FAT - File Allocation Table (FAT) is the legacy file system for Windows. This file system supports a maximum partition size of 2 GB.
- FAT32 - This file system was introduced with Windows 95 Service Release 2 and allows a maximum partition size of 2 terabytes (TB).
- NTFS - This file system was introduced with Windows NT. It provides support for file compression, file encryption, and file/folder security.
- CDFS - This file system is used on CD-ROM drives.
- Quick format versus full format - In choosing between these two types of formats, keep in mind that a quick format does NOT check for bad sectors. A full format will take much longer than a quick format because a full format checks for bad sectors.
- ExFAT - This file system is the successor to FAT32. It allowed for larger files, particularly media files, and compatibility with flash media.
- NFS - This file system is used primarily in Linux systems. It allows users to access remote files the same way they would access local files.
- EXT3 - A common Linux file system. It allows for journaling, which protects against file system corruption in the event of a crash. It supports file sizes to 2 TB.
- EXT4 - A newer version of EXT3. It supports file sizes to 6 TB. The maximum file system size is 1 exabyte.
- HFS - Hierarchical File System (HFS) is the file system supported by Mac OSx 8.0 and later. The latest version is HFS+.
- Swap partition - A special partition created to store the paging file. It is used as virtual memory.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

NTFS Permissions, <http://www.ntfs.com/ntfs-permissions.htm>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #58 of 99

Question ID: 1176338

You want to install Windows 7 Professional 64-bit edition on a new computer. Which hardware is NOT a minimum requirement?

- X **A)** 1 gigahertz 64-bit processor
- X **B)** DirectX 9 graphics card
- X **C)** 2 gigabytes RAM
- ✓ **D)** 16 GB available hard drive space

Explanation

To install Windows 7 Professional 64-bit on a user's computer, you do not need 16 GB of available hard drive space. This amount of hard drive space is needed for the 32-bit versions of Windows 7. The 64-bit versions need 20 GB of available hard drive space.

All 32-bit versions of Windows 7 have the following minimum requirements:

- 1 gigahertz (GHz) processor
- 1 gigabyte (GB) RAM
- 16 GB available hard drive space
- DirectX 9 graphics card with WDDM 1.0 or higher driver

All 64-bit versions of Windows 7 have the following minimum requirements:

- 1 GHz processor
- 2 GB RAM
- 20 GB available hard drive space
- DirectX 9 graphics card with WDDM 1.0 or higher driver

Some features in Windows 7 have additional minimum hardware requirements:

- Internet access
- Video playback may require additional memory and graphics card hardware, depending on resolution
- DirectX 10.0 or higher for optimal operation of some applications
- TV tuner and additional hardware for some Windows Media Center functions
- Homegroup requires network and Windows 7 computers
- A compatible optical drive for DVD/CD authoring
- Trusted Platform Module (TPM) 1.2 for BitLocker

- USB flash drive for BitLocker To Go
- Additional 1 GB RAM and 15 GB of available hard drive space for Windows XP Mode

Windows 8 and 8.1 have the following minimum requirements:

- 1 GHz 32- or 64-bit processor with support for PAE,NX and SSE2
- 1 GB RAM (32-bit), 2 GB RAM (64-bit)
- 16 GB hard drive space (32-bit) or 20 GB (64-bit)
- DirectX 9 graphics card with WDDM driver

Windows 10 has the following minimum requirements:

- Processor: 1 GHz or faster processor or SoC
- RAM: 1 GB for 32-bit or 2 GB for 64-bit
- Hard disk space: 16 GB for 32-bit OS or 20 GB for 64-bit OS
- Graphics card: DirectX 9 or later with WDDM 1.0 driver
- Display: 800 x 600

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Windows 7 System Requirements, <http://windows.microsoft.com/en-us/windows7/products/system-requirements>

Windows 8.1 System Requirements, <http://windows.microsoft.com/en-US/windows-8/system-requirements>

Windows 10 System Requirements, <https://support.microsoft.com/en-us/help/4028142/windows-windows-10-system-requirements>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #59 of 99

Question ID: 1202777

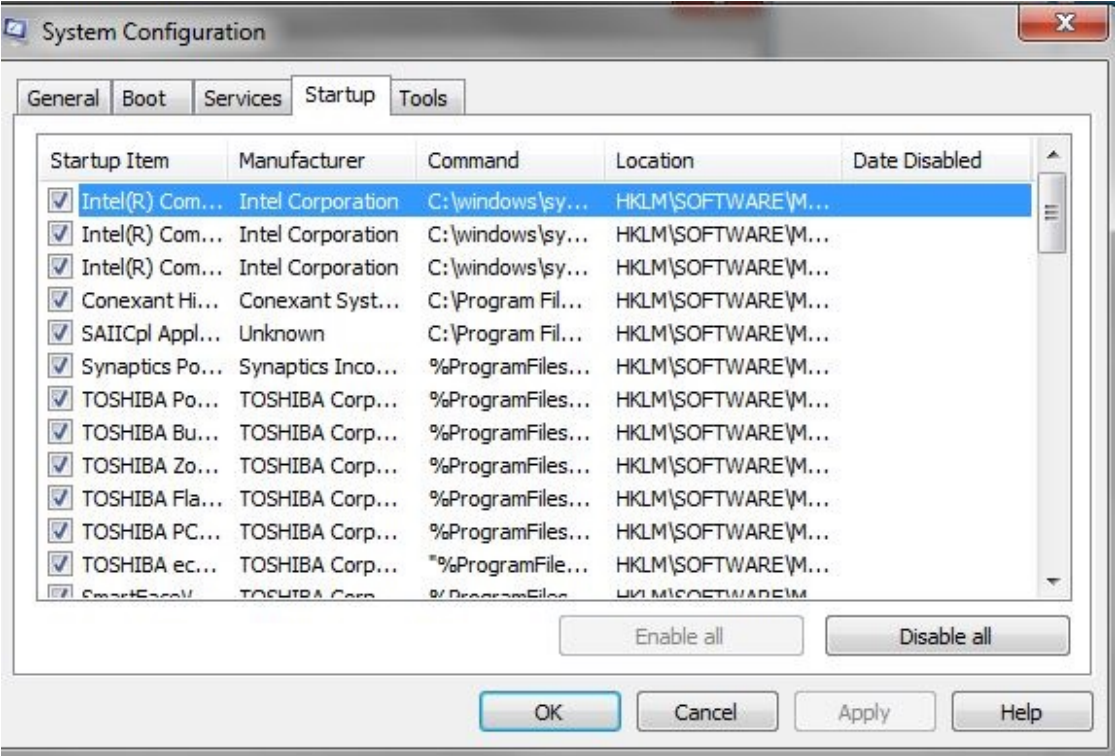
You need to adjust which applications can be loaded at boot time. Which tab of the MSCONFIG utility in Windows 7 should you access?

- X **A)** The General tab
- ✓ **B)** The Startup tab
- X **C)** The Boot tab

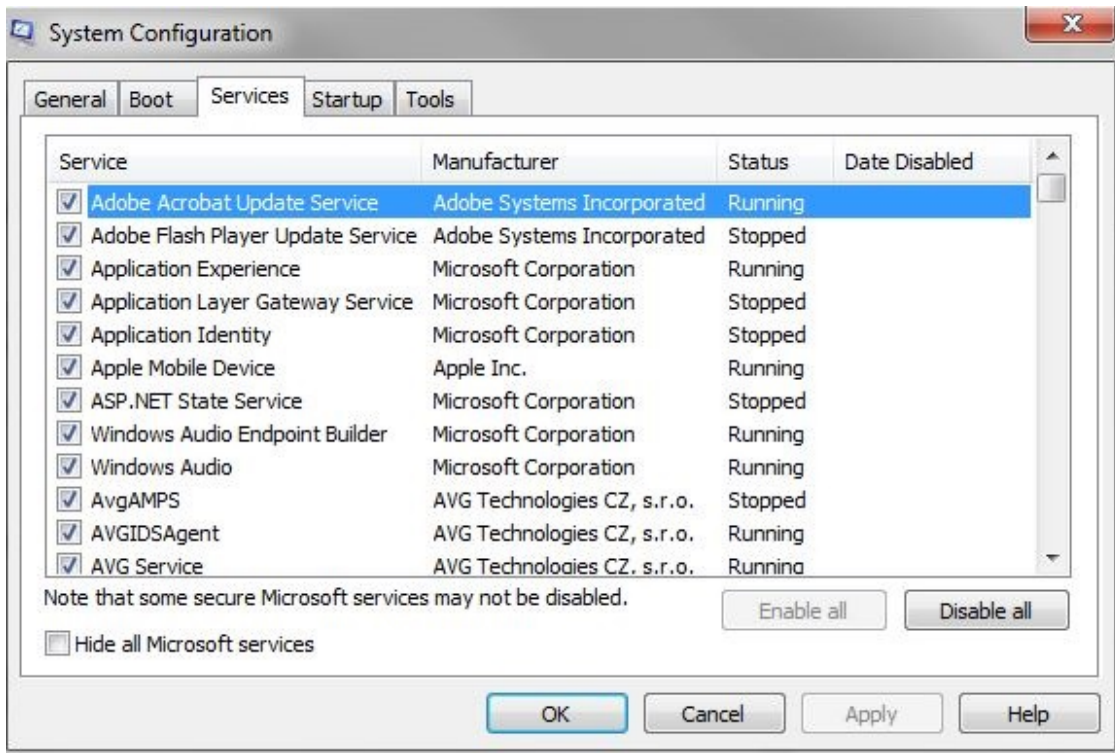
X **D)** The Services tab

Explanation

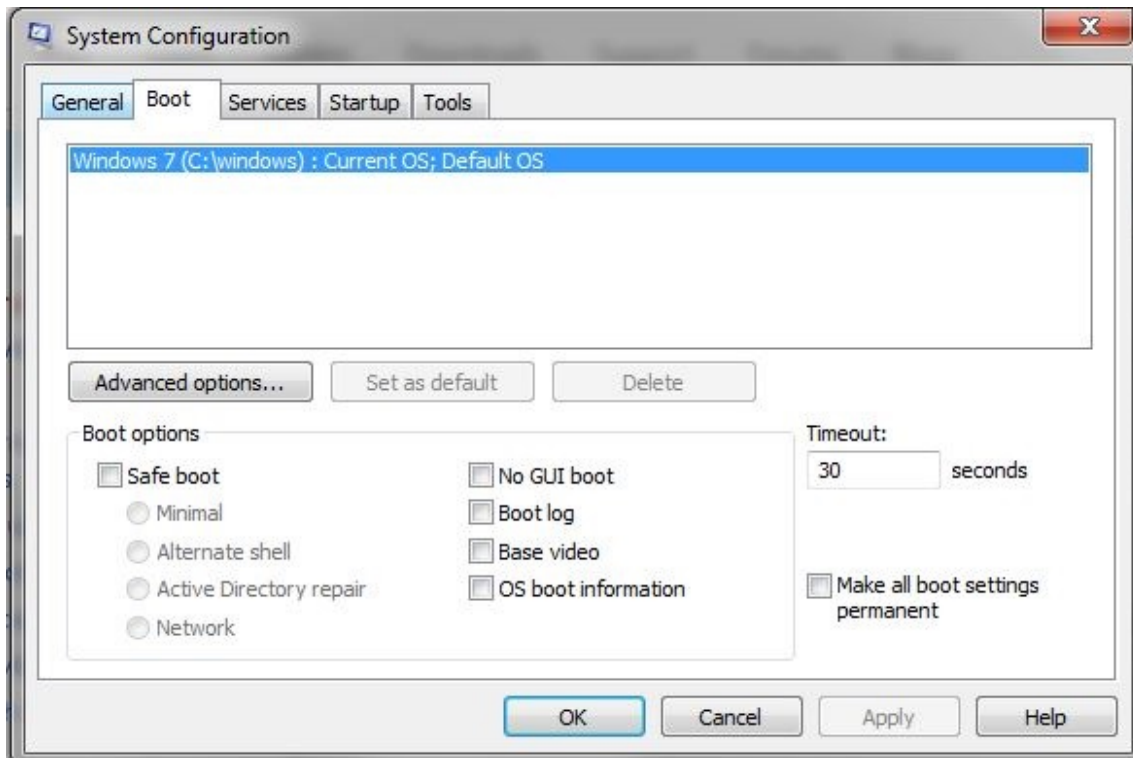
The Startup tab provides a list of items with check boxes that can be cleared to prevent the corresponding items from loading at boot time. The list includes all the applications that are normally loaded at start up time. You should remove all unneeded applications from the Startup tab to reduce the startup time. The Startup tab for the System Configuration utility is shown in the following exhibit:



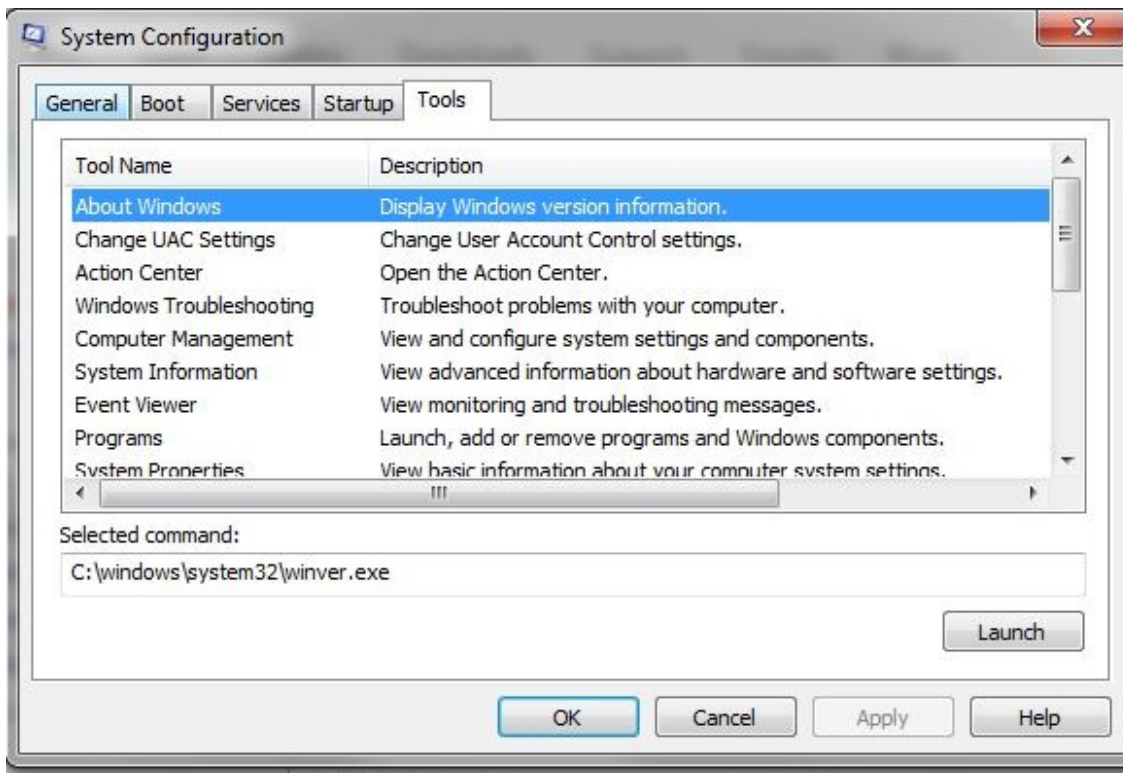
The Services tab shows all services and their statuses. You can enable or disable services from this tab. The Services tab is shown in the following exhibit:



The Boot tab displays a pane that allows the boot.ini file to be manipulated. The Boot Options check box area allows the computer to boot up in a user selected mode such as Safe mode or Safe mode with command prompt only. The Boot tab is shown in the following exhibit:



The Tools tab, which is not an option in this question, provides access to some Windows diagnostic tools. It is shown in the following exhibit:

**Objective:**

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

How to Use MSConfig, <http://www.netsquirrel.com/msconfig/>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #60 of 99

Question ID: 1176388

A user with a Windows 7 Ultimate computer that is a member of a domain reports that she is unable to create a Homegroup. What is the reason?

- ✓ **A)** The user cannot create a Homegroup because the computer is a member of a domain.
- X **B)** Homegroups are only available on computers running Windows 7 Home Basic and Home Premium.
- X **C)** UAC needs to be disabled.
- X **D)** The user is not running the correct edition of Windows 7 to create a Homegroup.

Explanation

The user cannot create a Homegroup because the computer is a member of a domain. When a computer is a member of a domain, the computer can join a Homegroup, but it cannot create a Homegroup.

User Account Control (UAC) does not affect the Homegroup feature in Windows 7.

Homegroups are available on all computers running Windows 7, Windows 8, and Windows 8.1. However, Homegroups cannot be created on computers running Windows 7 Starter or Windows 7 Home Basic.

The Homegroup feature was removed in later versions of Windows 10.

You should understand the following comparisons between workgroups and Homegroups:

- Workgroups are limited to 20 computers, but Homegroups are not.
- Homegroups require Windows 7, Windows 8, or Windows 8.1.
- Workgroups require setting individual sharing and permissions. In Homegroups, you just right-click the file or folder and add it to the Homegroup.
- Joining a Homegroup requires that you are first a member of a workgroup.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft Windows Control Panel utilities.

References:

Homegroup from start to finish, <https://support.microsoft.com/en-us/help/17145/windows-homegroup-from-start-to-finish>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.6 Given a scenario, use Microsoft Windows Control Panel utilities

Question #61 of 99

Question ID: 1202760

Your company's network contains workstations that run Windows 8, Windows 8.1, Windows 10 Professional, and Windows 7 Ultimate. You need to install the Multilingual User Interface (MUI) on all the workstations. Which operating systems will provide multilingual support for both the operating systems and applications? (Choose all that apply.)

- ✓ **A)** Windows 8.1
- ✓ **B)** Windows 7 Ultimate
- ✓ **C)** Windows 8
- ✓ **D)** Windows 10 Professional

Explanation

Windows 7 Ultimate will provide multilingual support for both the operating systems and applications. All editions of Windows 8, Windows 8.1, and Windows 10 support MUI.

Prior to Windows Vista, multilingual support was provided for only the operating systems. This included Windows 2000 Server, Windows XP, and Windows Server 2003.

To allow full viewing of all menus and dialog boxes for multiple languages, you should install the MUI for the operating system you are using.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

About Multilingual User Interface, <http://msdn.microsoft.com/en-us/goglobal/dd218459>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #62 of 99

Question ID: 1202786

Which security considerations should you take into account when installing and configuring applications on Windows desktops? (Choose all that apply.)

- ✓ **A)** User privileges
- ✓ **B)** Turning Windows features on or off
- X **C)** Remote PC access
- ✓ **D)** Impact to device

Explanation

You should consider the impact to the device, user privileges, and whether Windows features will be enabled or disabled as a result of the installation.

You should consider the impact to the device, specifically the application's access to the device's files, settings, and user accounts. If, for example, the application accesses information in the cloud, you might be vulnerable to an attack. You should also consider whether the application is allowed to make changes to the underlying operating system settings, registry keys, or inbound connections.

You might also want to consider which user privileges are required to install and run the application. User Account Control (UAC) will limit the users that will be able to install applications on a Windows computer. An administrative-level account is required to do this.

You should consider whether the application will enable or disable Windows features. If you have to disable Windows Firewall to install an application, what vulnerabilities does this expose?

Remote PC access is a general security concern, but it is primarily concerned with the impact to the network rather than the impact to the device. Remote PC access is not usually a consideration when installing or configuring an applications. It is likely only a consideration once you start using the application, but only if it uses remote PC access in some way.

Objective:

Operating Systems

Sub-Objective:

Summarize application installation and configuration concepts.

References:

Security considerations and best practices <https://docs.citrix.com/en-us/citrix-virtual-apps-desktops/secure/best-practices.html>

How User Account Control works, <https://docs.microsoft.com/en-us/windows/security/identity-protection/user-account-control/how-user-account-control-works>

Question #63 of 99

Question ID: 1176360

You are the desktop support technician for your company. You are working on a computer running Windows 7 that has two hard disk drives, named HDD1 and HDD2. You want to copy the entire file and folder structure from HDD1 to HDD2 in the most efficient manner.

Which command-line tool should you use?

- X **A)** copy.exe
- X **B)** diskcopy.exe
- X **C)** move.exe
- ✓ **D)** xcopy.exe

Explanation

You should use the xcopy.exe command-line tool. Xcopy.exe allows you to copy files and folders, including subfolders. Xcopy.exe is useful when you want to efficiently duplicate multiple files and folders from one location to another. When using this command, you should be familiar with the following parameters:

- /S - Copies directories and subdirectories, unless they are empty.
- /E - Copies all directories and subdirectories, even if they are empty.
- /V - Verifies each file.
- /C - Continues copying even if errors occur.
- /F - Displays full file names while copying.
- /H - Copies hidden and system files in addition to the others.

All of the parameters that can be used with the xcopy command are shown in the following exhibit:



```

Administrator: Command Prompt

C:\Users\Administrator>xcopy /?
Copies files and directory trees.

XCOPY source [destination] [/A | /M] [/D[:date]] [/P] [/S [/E]] [/U] [/W]
[/C] [/I] [/Q] [/F] [/L] [/G] [/H] [/R] [/T] [/U]
[/K] [/N] [/O] [/X] [/Y] [/Z] [/B] [/J]
[/EXCLUDE:file1[+file2][+file3]...]

source          Specifies the file(s) to copy.
destination     Specifies the location and/or name of new files.
/A              Copies only files with the archive attribute set,
               doesn't change the attribute.
/M              Copies only files with the archive attribute set,
               turns off the archive attribute.
/D[:n-d-y]      Copies files changed on or after the specified date.
               If no date is given, copies only those files whose
               source time is newer than the destination time.
/EXCLUDE:file1[+file2][+file3]...
               Specifies a list of files containing strings. Each string
               should be in a separate line in the files. When any of the
               strings match any part of the absolute path of the file to be
               copied, that file will be excluded from being copied. For
               example, specifying a string like \obj\ or .obj will exclude
               all files underneath the directory obj or all files with the
               .obj extension respectively.
/P              Prompts you before creating each destination file.
/S              Copies directories and subdirectories except empty ones.
/E              Copies directories and subdirectories, including empty ones.
               Same as /S /E. May be used to modify /I.
/U              Verifies the size of each new file.
/W              Prompts you to press a key before copying.
/C              Continues copying even if errors occur.
/I              If destination does not exist and copying more than one file,
               assumes that destination must be a directory.
/Q              Does not display file names while copying.
/F              Displays full source and destination file names while copying.
/L              Displays files that would be copied.
/G              Allows the copying of encrypted files to destination that does
               not support encryption.
/H              Copies hidden and system files also.
/R              Overwrites read-only files.
/T              Creates directory structure, but does not copy files. Does not
               include empty directories or subdirectories. /T /E includes
               empty directories and subdirectories.
/U              Copies only files that already exist in destination.
/K              Copies attributes. Normal Xcopy will reset read-only attributes.
/N              Copies using the generated short names.
/O              Copies file ownership and ACL information.
/X              Copies file audit settings (implies /O).
/Y              Suppresses prompting to confirm you want to overwrite an
               existing destination file.
/-Y             Causes prompting to confirm you want to overwrite an
               existing destination file.
/Z              Copies networked files in restartable mode.
/B              Copies the Symbolic Link itself versus the target of the link.
/J              Copies using unbuffered I/O. Recommended for very large files.
  
```

You should not use the copy.exe command-line tool. Copy.exe is used to copy one or more files from one location to another. However, copy.exe does not copy files in subfolders. To copy all files and folders from one folder to another, you should use the xcopy.exe command. When using this command, you should be familiar with the following parameters:

- /V - Verifies that new files are correctly written.
- /Y - Stops prompting for overwriting files.
- /-Y - Enables prompting for overwriting files.

You should not use the diskcopy.exe command-line tool. Diskcopy.exe allows you to copy the contents of a floppy disk in the source drive to another floppy disk in the destination drive. Diskcopy.exe can only be used for removable disks, such as floppy disks.

You should not use the move.exe command-line tool. Move.exe is used to move one or more files and folders from one location to another. When you use the move.exe command, the files and folders are copied from the source folder to the destination folder. However, when the copy process completes, the files and folders are deleted from the source folder, which is not required in this scenario.

You should also be familiar with the robocopy command. This is a command provided in Windows 7 and higher that copies files and folders of any size, including all NTFS ACL information, even over network connections. The syntax for this command is ROBOCOPY source destination [file [file]] [options]. When using this command, you should be familiar with the following parameters:

- /S - Copies subdirectories, except empty ones.
- /E - Copies subdirectories, including empty ones.
- /COPY - Indicates which file ACL parameters (attributes, timestamps, owner, security information) should be copied with the files.
- /SEC - Copies ALL ACL parameters, including attributes, timestamps, owner information, and ACL security information.

For most Windows commands, entering the command with the /? parameter will give you a description of the command and its parameters.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use appropriate Microsoft command line tools.

References:

Xcopy, <https://ss64.com/nt/xcopy.html>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.4 Given a scenario, use appropriate Microsoft command line tools

Question #64 of 99

Question ID: 1176382

While performing your IT technician duties, you plan to use the USMT tool. Why should you use this tool?

- X **A)** To determine if your computer is able to run a new operating system version
- X **B)** To plan desktop and server migrations
- ✓ **C)** To migrate user settings and files from one operating system to another
- X **D)** To obtain a list of hardware that is compatible with a particular operating system version

Explanation

The User State Migration Tool (USMT) is used to migrate user settings from one operating system to another in Windows 7 and higher.

The Windows Upgrade Advisor is a tool used to determine if your computer is able to run a new operating system version.

The Microsoft Assessment and Planning Toolkit is a tool used to plan desktop and server migrations.

A hardware compatibility list (HCL) is a list of hardware that is compatible with a particular operating system version. Each version of Windows has its own HCL.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

User State Migration Tool (USMT) Overview, <https://docs.microsoft.com/en-us/windows/deployment/usmt/usmt-overview>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #65 of 99

Question ID: 1202771

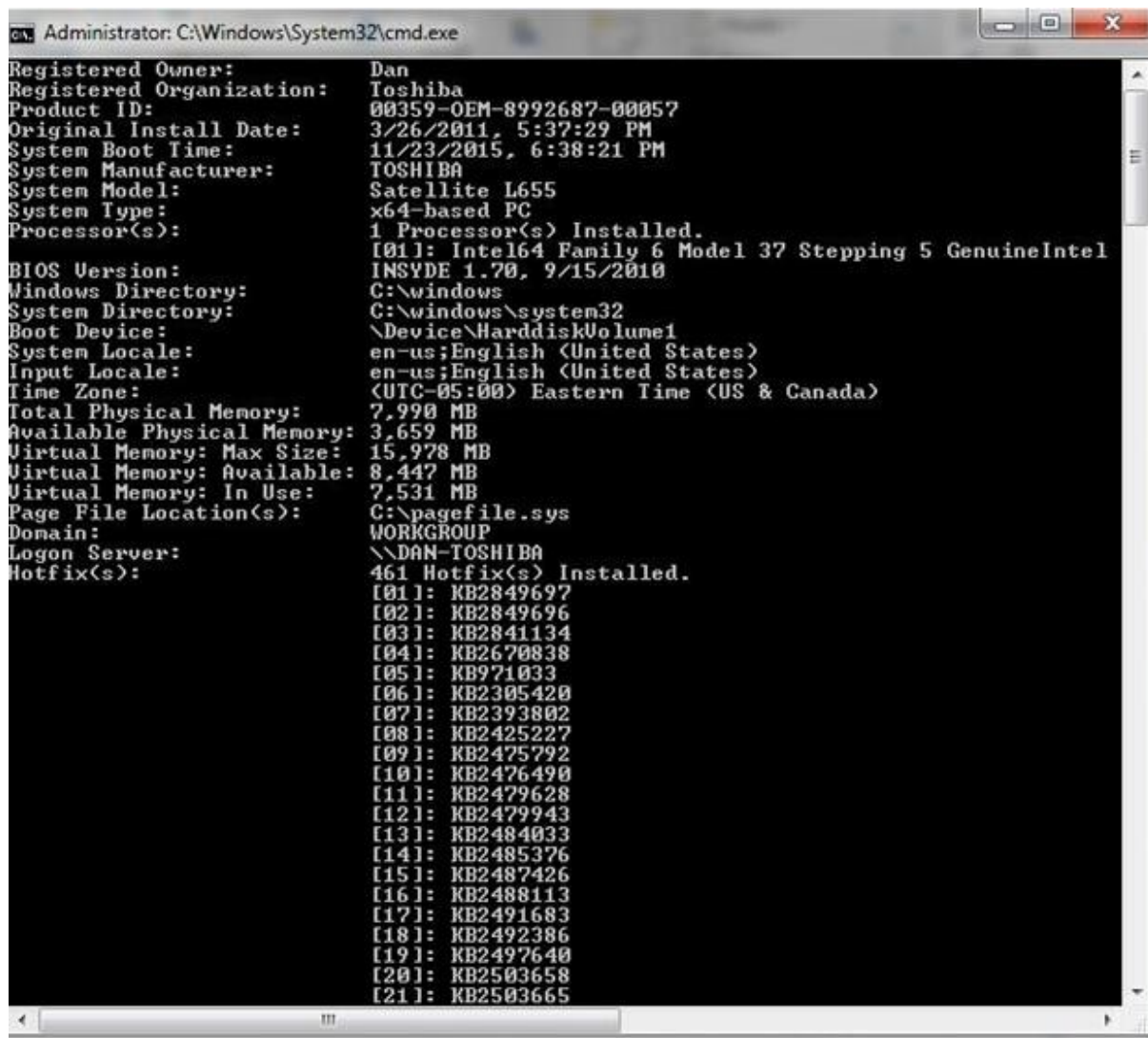
You run the systeminfo command on a Windows 7 computer. What will NOT be displayed?

- X **A)** installed hotfixes
- X **B)** domain name
- X **C)** virtual memory statistics
- ✓ **D)** boot options

Explanation

Boot options are not displayed when you run the systeminfo command on a Windows 7 computer. Boot options are displayed on the Boot tab of the System Configuration utility.

When you run the systeminfo command on a Windows 7 computer, you will see results similar to the following:



```

Administrator: C:\Windows\System32\cmd.exe
Registered Owner:      Dan
Registered Organization: Toshiba
Product ID:            00359-OEM-8992687-00057
Original Install Date: 3/26/2011, 5:37:29 PM
System Boot Time:      11/23/2015, 6:38:21 PM
System Manufacturer:   TOSHIBA
System Model:          Satellite L655
System Type:           x64-based PC
Processor(s):          1 Processor(s) Installed.
                       [01]: Intel64 Family 6 Model 37 Stepping 5 GenuineIntel
BIOS Version:          INSYDE 1.70, 9/15/2010
Windows Directory:     C:\windows
System Directory:      C:\windows\system32
Boot Device:           \Device\HarddiskVolume1
System Locale:          en-us;English (United States)
Input Locale:          en-us;English (United States)
Time Zone:             (UTC-05:00) Eastern Time (US & Canada)
Total Physical Memory: 7.990 MB
Available Physical Memory: 3.659 MB
Virtual Memory: Max Size: 15.978 MB
Virtual Memory: Available: 8.447 MB
Virtual Memory: In Use: 7.531 MB
Page File Location(s): C:\pagefile.sys
Domain:                WORKGROUP
Logon Server:          \\DAN-TOSHIBA
Hotfix(s):              461 Hotfix(s) Installed.
                       [01]: KB2849697
                       [02]: KB2849696
                       [03]: KB2841134
                       [04]: KB2670838
                       [05]: KB971033
                       [06]: KB2305420
                       [07]: KB2393802
                       [08]: KB2425227
                       [09]: KB2475792
                       [10]: KB2476490
                       [11]: KB2479628
                       [12]: KB2479943
                       [13]: KB2484033
                       [14]: KB2485376
                       [15]: KB2487426
                       [16]: KB2488113
                       [17]: KB2491683
                       [18]: KB2492386
                       [19]: KB2497640
                       [20]: KB2503658
                       [21]: KB2503665
  
```

The systeminfo command on a Windows 8 computer will look more like the following:

```

Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>systeminfo

Host Name:                WIN81
OS Name:                  Microsoft Windows 8.1 Enterprise Evaluation
OS Version:               6.3.9600 N/A Build 9600
OS Manufacturer:         Microsoft Corporation
OS Configuration:        Standalone Workstation
OS Build Type:             Multiprocessor Free
Registered Owner:         pq1amb@gmail.com
Registered Organization:
Product ID:                00260-60000-00000-AA427
Original Install Date:     6/9/2014, 11:45:59 AM
System Boot Time:          7/26/2014, 8:37:13 PM
System Manufacturer:       Microsoft Corporation
System Model:              Virtual Machine
System Type:               x64-based PC
Processor(s):              1 Processor(s) Installed.
                           [01]: Intel64 Family 6 Model 45 Stepping 7 GenuineInt
                           el ~1995 Mhz
BIOS Version:              American Megatrends Inc. 090006 , 5/23/2012
Windows Directory:         C:\Windows
System Directory:          C:\Windows\system32
Boot Device:               \Device\HarddiskVolume1
System Locale:              en-us;English (United States)
Input Locale:              en-us;English (United States)
Time Zone:                 (UTC-08:00) Pacific Time (US & Canada)
Total Physical Memory:      4.096 MB
Available Physical Memory:  3.210 MB
Virtual Memory: Max Size:  5.504 MB
Virtual Memory: Available: 4.613 MB
Virtual Memory: In Use:     891 MB
Page File Location(s):     C:\pagefile.sys
Domain:                    WORKGROUP
Logon Server:              \\WIN81
Hotfix(s):                 N/A
Network Card(s):           1 NIC(s) Installed.
                           [01]: Microsoft Hyper-V Network Adapter
                           Connection Name: WebNet
                           DHCP Enabled:    Yes
                           DHCP Server:     172.18.0.2
                           IP address(es)
                           [01]: 172.18.18.20
                           [02]: fe80::e926:624b:c658:fb31
Hyper-V Requirements:      A hypervisor has been detected. Features required for
Hyper-V will not be displayed.

C:\Users\Administrator>_

```

You would run the msconfig command to open the System Configuration utility.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use appropriate Microsoft command line tools.

References:

systeminfo, <https://docs.microsoft.com/en-us/windows-server/administration/windows-commands/systeminfo>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.4 Given a scenario, use appropriate Microsoft command line tools

Question #66 of 99

Which method of installing and deploying applications would best allow the administrator to ensure that a new application is installed on 100 user desktops in the most timely manner?

- ✓ **A) Network-based installation**
- X **B) Local media-based installation through CD/USB**
- X **C) User-driven installation**
- X **D) Put the application in the App Store**

Explanation

Network-based installation would best allow the administrator to ensure that a new application is installed on 100 user desktops in the most timely manner. One example would be to create a shared folder on the server, store the application and installation files in the folder, and install the application remotely in unattended mode.

In user-driven installation, the administrator is at the mercy of the user. The user may fail to install the application within the indicated time frame, or may choose not to install the application at all. The administrator would also have to set local user permissions to allow the user to install the application.

If the administrator puts the application in the App Store, a number of issues may arise. First, the App Store is for Apple devices, and nothing in the scenario indicates the desktops are Apple devices. It would be hard or impossible to ensure that the application is only available to your 100 users. There are also a number of security considerations that could have an impact to the device and an impact to the network.

Using portable media to install local (CD/USB) would get the installation out to the user desktops, but it could be very time-consuming. Using multiple copies of the media to perform the installation would reduce the installation time, but the administrator would still have copy the new application to each piece of media.

Objective:

Operating Systems

Sub-Objective:

Summarize application installation and configuration concepts.

References:

Deploy applications with Configuration Manager, <https://docs.microsoft.com/en-us/sccm/apps/deploy-use/deploy-applications>

Create a network installation of Visual Studio 2017, <https://docs.microsoft.com/en-us/visualstudio/install/create-a-network-installation-of-visual-studio?view=vs-2017>

Question #67 of 99

Question ID: 1176387

You have been asked to implement a Homegroup for a user. You need to explain to the user the requirements for this to occur. What is the main requirement that you should mention?

- ☐ A) All computers must run Windows 7.
- ☐ B) All computers must run Windows 8 or Windows 8.1.
- ☐ C) All computers must run Windows 7 Home Premium Edition.
- ☒ D) All computers must run Windows 7, Windows 8, or Windows 8.1.

Explanation

You should mention to the user the main requirement that all computers run Windows 7, Windows 8, or Windows 8.1. Homegroup was introduced as a new feature in Windows 7 that allows users to connect computers easily to share files and devices.

Homegroup works on any version of Windows 7, Windows 8, or Windows 8.1. However, the Homegroup feature must be initially created on a computer running Windows 7 Home Premium, Ultimate, Professional, or Enterprise, Windows 8, or Windows 8.1.

Homegroup was removed in later versions of Windows 10.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft Windows Control Panel utilities.

References:

Homegroup From Start to Finish, <http://windows.microsoft.com/en-us/windows/homegroup-help#homegroup-start-to-finish=windows-7&v1h=win81tab1&v2h=win7tab2>

Homegroup - Create in Windows 8, <http://www.eightforums.com/tutorials/15824-homegroup-create-windows-8-a.html>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.6 Given a scenario, use Microsoft Windows Control Panel utilities

Question #68 of 99

Question ID: 1176335

Which Windows operating systems include apps that use the Windows Store feature? (Choose all that apply.)

- ☒ A) Windows 8.1

- X **B)** Windows 7
- ✓ **C)** Windows 10
- ✓ **D)** Windows 8

Explanation

Windows 8, Windows 8.1, and Windows 10 allow you to find apps using the Windows Store feature. Windows Store can be accessed from the Start screen or the desktop taskbar by typing Store.

Windows Store has apps (both free and paid) that work well with Windows 8, Windows 8.1, Windows 8.1 Metro User Interface (Metro UI), and Windows 10. The icon for the Windows Store is shown in the following exhibit:



Windows Store is not available in Windows 7.

Objective:

Operating Systems

Sub-Objective:

Compare and contrast features of Microsoft Windows versions.

References:

How to Disable Windows Store in Windows 10 & Windows 8, 8.1, <https://www.repairwin.com/disable-windows-store-in-windows-10-8-8-1/>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1. 2 Compare and contrast features of Microsoft Windows versions

Question #69 of 99

Question ID: 1176380

You need to make sure that old application data is not still located on a Windows 7 computer. Which hidden folder in Windows 7 stores this data?

- X **A)** %systemdrive%\Documents and Settings\AppData

- ✓ **B)** %systemdrive%\Users\user_name\AppData
- X **C)** %systemdrive%\Local Settings\Application Data
- X **D)** %systemdrive%\Documents and Settings\Local Settings\Application Data

Explanation

The %systemdrive%\Users\user_name\AppData folder stores user application data and is a hidden folder in Windows 7 and higher.

None of the other options indicates the correct hidden folder in Windows that stores user application data.

The %systemdrive%\Documents and Settings\user_name\Local Settings\Application Data folder stores user application data for Windows XP Professional and Windows 2000. Windows XP and 2000 are no longer supported by Microsoft.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

Managing Roaming User Data Deployment Guide, [http://technet.microsoft.com/en-us/library/cc766489\(W.S.10\).aspx](http://technet.microsoft.com/en-us/library/cc766489(W.S.10).aspx)

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #70 of 99

Question ID: 1176411

You need to access content on a CD or DVD drive when you do not have an optical drive in your Mac computer. Which feature should you use?

- ✓ **A)** Remote Disk
- X **B)** Boot Camp
- X **C)** Finder
- X **D)** iCloud

Explanation

Remote Disk is the feature of the Mac OS to access content on a CD or DVD drive when you do not have an optical drive. When configured, it allows you to access a CD or DVD drive hosted on another computer. Remote Disk (or Remote Disc) does not work with most copyrighted media.

Boot camp is a Mac feature that allows you to install Windows on a Mac computer.

iCloud is a central internet storage that allows you to store your content and have it accessible on any of your Mac devices.

Finder is a filing system that you can use to organize your files. It is analogous to Windows Explorer.

Other common features of the Mac and Linux operating systems are:

- Multiple Desktops/Mission Control - Linux and Mac OS allow you to have multiple desktops. Mac Mission Control allows you to see all of your desktops and open applications and switch between them. It is somewhat analogous the Alt+Tab feature in Windows. Linux uses command-line shells to manage desktops. In Linux, you use the Ctrl+Alt+Function keys to switch between up to six different desktops, each corresponding to F1 through F6.
- Key Chain - This is a Mac password storage application that stores your passwords securely. When used with iCloud, your passwords are available on all your devices. Linux has several password management applications available.
- Spot Light - This a search utility that finds files and applications, and performs web searches. It has more features than the Windows Search function. Linux has several search utilities available.
- Gestures - This Mac feature allows you to duplicate mouse gestures using your fingers.
- Dock - This is the row of icons on the bottom of a Mac display and can be configured to provide access to your most frequently used applications and documents. It is analogous to the Windows Taskbar.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems.

References:

Use the CD or DVD drive from another computer with your Mac, <https://support.apple.com/en-us/HT203973>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.9 Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems

Question #71 of 99

Question ID: 1176407

You are setting up networking on your work computer. You were given unique login credentials by the system administrator, who manages all credentials for thousands of employees. What type of network would this be?

- ☐ A) public
- ☒ B) domain
- ☐ C) Homegroup
- ☐ D) workgroup

Explanation

This network would be a domain because you were given unique login credentials by the system administrator, who manages all credentials for thousands of employees.

A workgroup is good for a small number of computers and does not have a central system administrator who issues credentials. Each computer within the workgroup could set up shares, but each share would have different login credentials.

A Homegroup would not be used for a work computer in a company with thousands of employees.

A public network is used for locations like coffee shops and airports, not for work locations, and would not have unique login credentials.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

How to Join a Domain, <https://helpdeskgeek.com/how-to/windows-join-domain/>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #72 of 99

Question ID: 1176402

You are connecting to a wireless network at a coffee shop. How should you classify that connection when prompted?

- X **A)** Home
- X **B)** Work
- ✓ **C)** Public
- X **D)** Private

Explanation

When you are connecting to a wireless network at a coffee shop, you should classify that connection as Public when prompted. When in doubt, choose Public, unless you need to share files or printers.

Home is primarily for home networks. Work is primarily for the workplace. There is no classification called Private. The different network classifications on Windows computers are shown in the following exhibit:

This computer is connected to a network. Windows will automatically apply the correct network settings based on the network's location.



Home network

If all the computers on this network are at your home, and you recognize them, this is a trusted home network. Don't choose this for public places such as coffee shops or airports.



Work network

If all the computers on this network are at your workplace, and you recognize them, this is a trusted work network. Don't choose this for public places such as coffee shops or airports.



Public network

If you don't recognize all the computers on the network (for example, you're in a coffee shop or airport, or you have mobile broadband), this is a public network and is not trusted.

☐ Treat all future networks that I connect to as public, and don't ask me again.

[Help me choose](#)

Cancel

Choose Home network for home networks or when you know and trust the people and devices on the network. Computers on a home network can belong to a Homegroup. This setting enables Network discovery, allowing you to see other network devices and other network users to see your computer.

Choose Work network for small office or other workplace networks. This setting enables Network discovery. In this network type, you cannot create or join a Homegroup.

Choose Public network for networks in public places (such as coffee shops or airports). This keeps your computer from being visible to other computers around you and protects your computer from any malicious software from the Internet. Homegroup is not available, and Network Discovery is turned off.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

Windows 7: Network Location - Set as Home, Work, or Public Network, <http://www.sevenforums.com/tutorials/43629-network-location-set-home-work-public-network.html>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #73 of 99

Question ID: 1202749

Which mobile device operating system provides the least expansion capacity and is limited to cloud-based and browser-based services?

- X **A)** Android
- X **B)** Microsoft Windows
- X **C)** iOS
- ✓ **D)** Chrome OS

Explanation

Chrome OS, available on Chromebooks, provides the least expansion capacity and is limited to cloud-based and browser-based services. While you cannot install a desktop application such as Microsoft Office on the Chrome OS, it may not be necessary if you can get the application functionality you need with Google Docs or Office365.

None of the other mobile device operating systems are limited to cloud-based or browser-based services. With Microsoft Windows, one can install the same application on a tablet and a desktop system.

Android is available on cell phones and tablets, and there are a plethora of applications available that can be installed for local use on the device. Applications (apps) can be downloaded and installed from the Google Play Store.

Apple uses the same iOS operating system for tablets (iPads) and cell phones (iPhones). As with Android, there are a multitude of applications available. The App Store is the repository for approved apps.

In addition, vendor-specific limitations, such as end-of-life for an operating system and update limitations, need to be considered before choosing an OS.

Objective:

Operating Systems

Sub-Objective:

Compare and contrast common operating system types and their purposes.

References:

Is Chrome OS right for you? A 3-question quiz to find out, <https://www.computerworld.com/article/2893364/chrome-os/is-chrome-os-right-for-you.html>

Question #74 of 99

Question ID: 1176352

You have a 3-TB drive on which you want to install Windows. How must you format the drive to have the operating system recognize the entire drive?

- X **A)** Extended
- ✓ **B)** GPT
- X **C)** Basic
- X **D)** MBR

Explanation

To install Windows on a 3 TB drive, you must format the drive as a GUID Partition Table (GPT) to have the operating system recognize the entire drive. GPT is replacing Master Boot Record (MBR). MBR supports up to four primary partitions and has a disk size limitation of 2 TB. GPT requires a UEFI motherboard.

You cannot install Windows on an extended partition. Extended does not refer to formatting, but rather to partitioning.

In a Windows installation, the boot files must reside on a primary partition. The operating system files may be on another partition. Primary partitions cannot be subdivided.

Dynamic partitions can be simple, spanned, or striped. A dynamic disk that is partitioned as simple is the same as a basic partition, but it has the ability to be spanned or striped in the future. A spanned partition allows you to combine the storage of several disks into a single volume, appearing as one drive letter in the operating system. Spanning does not provide fault tolerance. Striping writes the data across several drives simultaneously, dramatically improving file I/O speeds. In round numbers, the I/O speed for striped volumes can be expressed as $1/N$, where N is the number of drives. As with spanning, there is no fault tolerance.

Basic partitions can be either primary or logical and reside on a physical drive. A basic disk can have up to four partitions. They can be four primary partitions or three primary and one logical.

Primary partitions contain the boot information for an operating system and cannot be subdivided.

Extended partitions are created from the space remaining on a physical disk after the primary partition has been created. Within the extended partition, you can subdivide the space into logical drives.

Logical partitions are created within extended partitions and can have drive letters assigned.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Hard Disk Drive (HDD) http://www.slideshare.net/jazz_306/hard-disk-30223450

How to partition a hard drive <http://www.pcworld.com/article/2066191/how-to-partition-a-hard-drive.html>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3
Summarize general OS installation considerations and upgrade methods

Question #75 of 99

Question ID: 1202751

You have installed several 32-bit and 64-bit applications on a Windows 7 Ultimate 64-bit computer. What is the installation folder for the 32-bit applications?

- X **A)** C:\Windows\System32
- X **B)** C:\Program Files
- ✓ **C)** C:\Program Files (x86)
- X **D)** C:\Program Files (x64)

Explanation

The default program installation folder for any edition of Windows 7, 8, 8.1, and 10 is C:\Program Files, regardless of whether it is running a 32-bit or 64-bit version of the operating system.

If you are running a 64-bit operating system and install 32-bit applications, the 32-bit applications will install to the C:\Program Files (x86) folder. To have both the C:\Program File and C:\Program Files (x86) folders, you must have a 64-bit operating system.

The C:\Program Files (x64) is not a valid default folder.

The C:\Windows\System32 folder contains vital operating system files. Most system folders and files are contained in the C:\Windows folder. You should be careful when moving system folders and files because doing so can prevent Windows from launching properly.

For the A+ exam, you need to understand the 32-bit vs. 64-bit RAM limitations. Keep in mind that Windows 64-bit operating systems support more than 4 GB of RAM in addition to supporting 64-bit processors, allowing for greater performance than a 32-bit computer.

There are several utilities that you need to understand for the A+ exam that are unique to a specific version of Windows. The utilities that are unique to Windows that you must know include the following:

- Homegroup utility - Allows you to configure a simple home network. Windows 7 Starter can only join a Homegroup. All other Windows 7 editions can both join and create a Homegroup. Windows Homegroup was discontinued in later versions of Windows 10.
- Action Center utility - Allows you to perform routine maintenance. It also includes security components.
- RemoteApp and Desktop Connections utility - Allows you to connect to remote computers and virtual machines.
- Troubleshooting utility - Allows you to troubleshoot common problems. Requires an administrative-level account to run.

Objective:

Operating Systems

Sub-Objective:

Compare and contrast common operating system types and their purposes.

References:

Change Default Installation Directory in Windows 7 & Vista, <http://www.intowindows.com/change-default-installation-directory-in-windows-7-vista/>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.1 Compare and contrast common operating system types and their purposes

Question #76 of 99

Question ID: 1176336

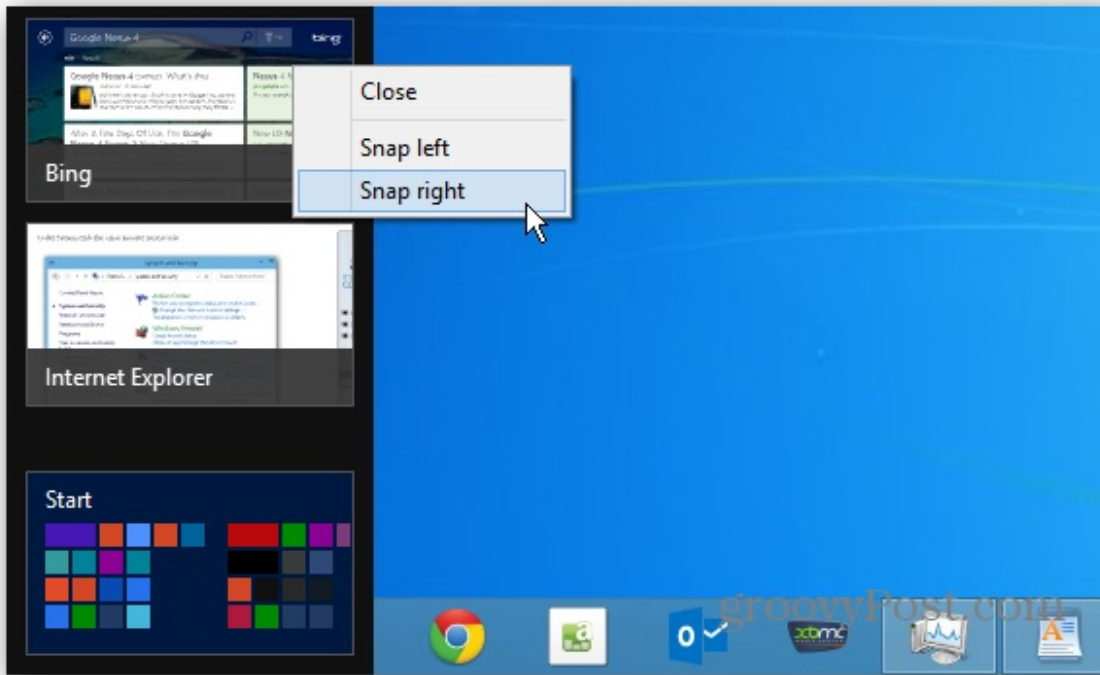
Which operating systems use the snap function to display two side-by-side applications? (Choose all that apply.)

- ✓ **A)** Windows 8.1
- ✓ **B)** Windows 10
- ✓ **C)** Windows 8
- ✓ **D)** Windows 7

Explanation

Windows 7, Windows 8, Windows 8.1, and Windows 10 use the snap function to display two side-by-side applications, which are also referred to as side-by-side apps. Managing applications through the snap feature replaces the older technique of tiling windows.

To use the snap feature, you should open both the applications, right-click one of the applications, and select the appropriate snap option from the drop-down menu, as shown in the following exhibit:



The Metro User Interface (Metro UI) also allows you to pin applications. To pin an application to the Start Screen and taskbar, slide up from the middle of the screen to display the Apps view. Press and hold or right-click the app you want to pin. (You can select more than one app and pin them all at once.) Then select the Tap, Pin to Start, or Pin to taskbar option based on the action you want to take. The apps you pinned will appear at the end of your Start screen or desktop taskbar.

Objective:

Operating Systems

Sub-Objective:

Compare and contrast features of Microsoft Windows versions.

References:

Snap Your Windows, <https://support.microsoft.com/en-au/help/4027324/windows-snap-your-windows>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1. 2 Compare and contrast features of Microsoft Windows versions

Question #77 of 99

Question ID: 1176413

You have an unresponsive application on a Mac computer, and you wish to end it. Which tool will allow you to do that?

- X A) Time Machine
- X B) Image recovery
- ✓ C) Force Quit

X **D) Snapshot**Explanation

Force Quit is the application that will allow you to end an unresponsive application. Force Quit is a feature in both Mac and Linux operating systems and is analogous to opening Task Manager and selecting End Process in Windows. On a Mac computer, press the Command-Option-Escape key to bring up the Force Quit Application window. Select the application you wish to quit, and then click Force Quit. On a Linux computer, Press Alt-F2, enter xkill, and then select the application you want to force quit. You can add a Force Quit icon to the Taskbar.

Time machine is not correct. Time machine creates backups, restore points, and images.

Snapshot is not correct. Snapshot creates an image of the system.

Image recovery is not correct. Image recovery allows you to restore a previously saved system image.

For the A+ exam, you must understand the Backup/Time Machine, restore/snapshot, image recovery, disk maintenance, Shell/Terminal, screen sharing, and Force Quit tools. Those tools are described in the following exhibit:

	Mac OS	Linux
Backup/Time Machine	Use the Time Machine application	Embedded tools include <i>tar</i> and <i>cpio</i>
Restore/snapshot	Use the Time Machine application	Use the embedded tool <i>lvcreate</i> to create a snapshot.
Image recovery	Use the Disk Utility tool	Use the embedded <i>rsync</i> tool to recover a previously saved image
Disk maintenance utilities	Disk maintenance utilities include Time Machine, Disk Utilities and others	Disk maintenance utilities include <i>rsync</i> , <i>fsck</i> , <i>tar</i> , <i>lvcreate</i> and others.
Shell/Terminal	With Mac computers, the shell (where you enter Unix-type commands) is accessed through Applications-Utilities-Terminal	With Linux computers, shell and terminal are two different things. The key combination CTRL-T will open a terminal window, from which you can run one of several shells.
Screen sharing	You can share the Mac screen through (Apple menu)-	Available through many third-party applications
Force Quit	Analogous to Task Manager-End Process in Windows. Press Command-Option-Escape, which brings up the Force Quit Application window. Select the application you wish to quit, then click Force Quit	Analogous to Task Manager-End Process in Windows. Press alt-f2, type in xkill, then select the application to force quit. You can also add a Force Quit icon onto the Task Bar

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems.

References:

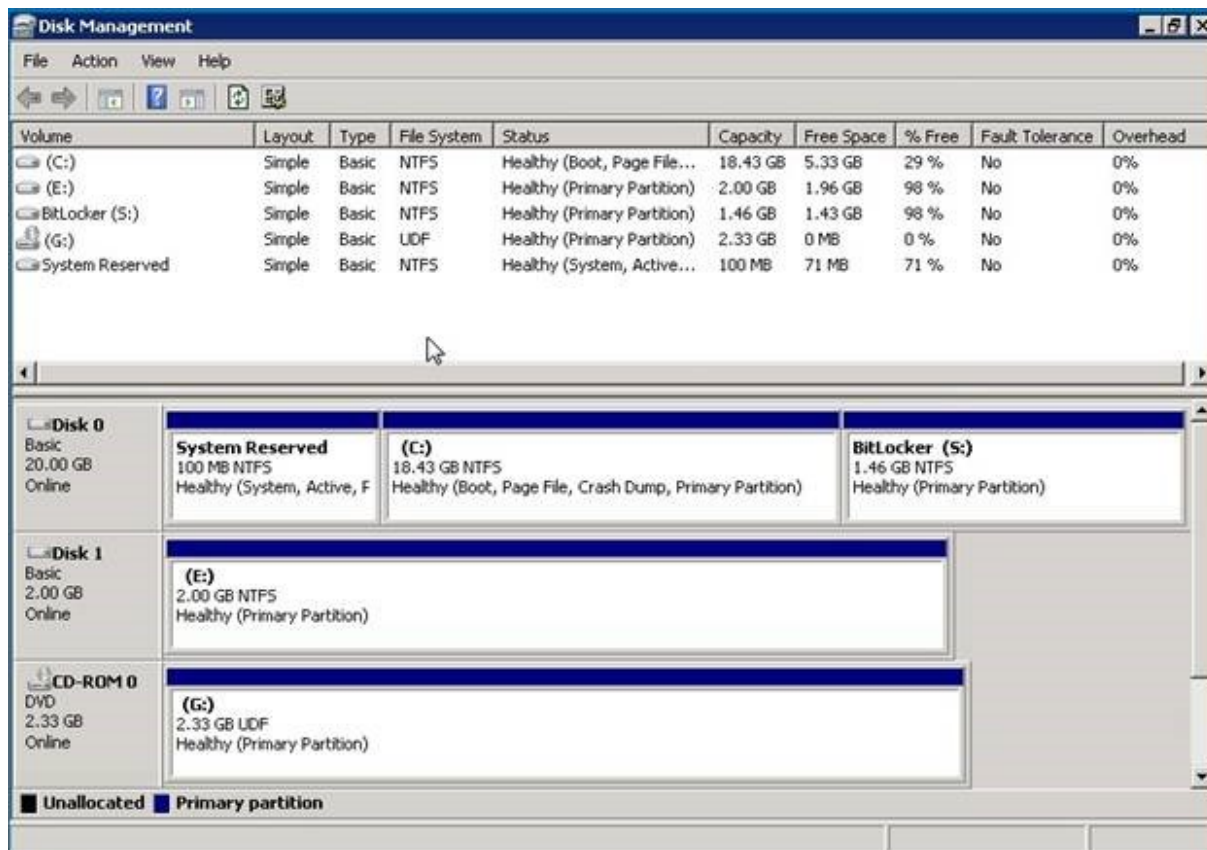
Force an app to close on your Mac, <https://support.apple.com/en-us/HT201276>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.9 Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems

Question #78 of 99

Question ID: 1202762

A server has the drives configured in the following manner.



You have been asked to split drive E into two partitions. The first partition should be 1,024 MB in size, mapped to drive E, and named DATA. The second partition should be the remaining space, mapped to drive F, and named Research.

You need to complete this task using the Disk Management console. Drag each step from the left to the right and place them in the correct order to complete the tasks. All steps are required.

{UCMS id=5741566884839424 type=Activity}

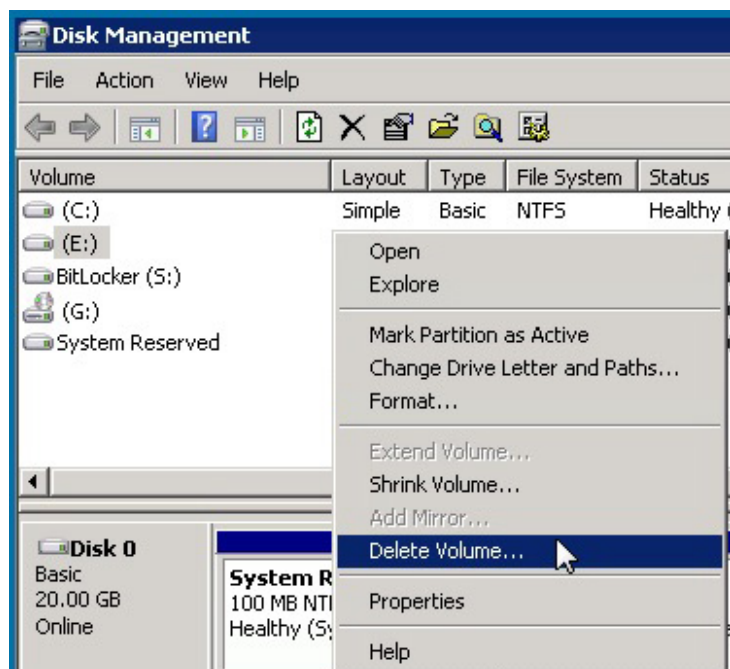
Explanation

You must delete the original drive E, not extend it. Extending a drive adds unallocated space to the drive.

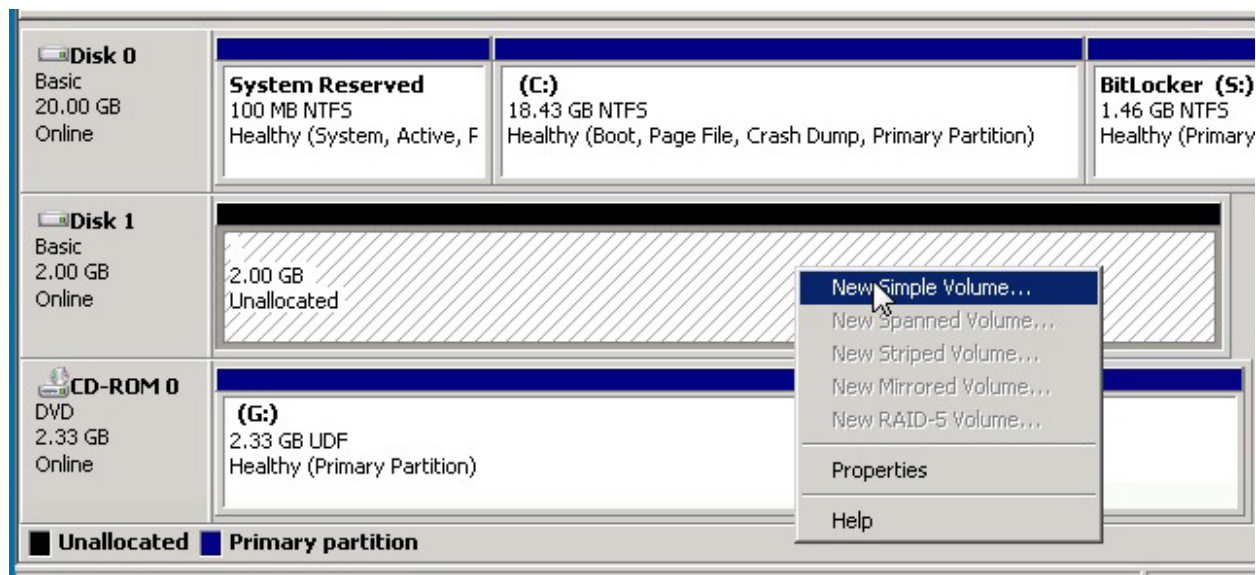
You should not create a new spanned volume. A spanned volume is one that uses space on multiple physical disks.

For the A+ exam, you need to understand how to use the Disk Management tool. If you do not have access to a lab environment, you should study Microsoft resources on the different options in the Disk Management tool. The order of the steps is important.

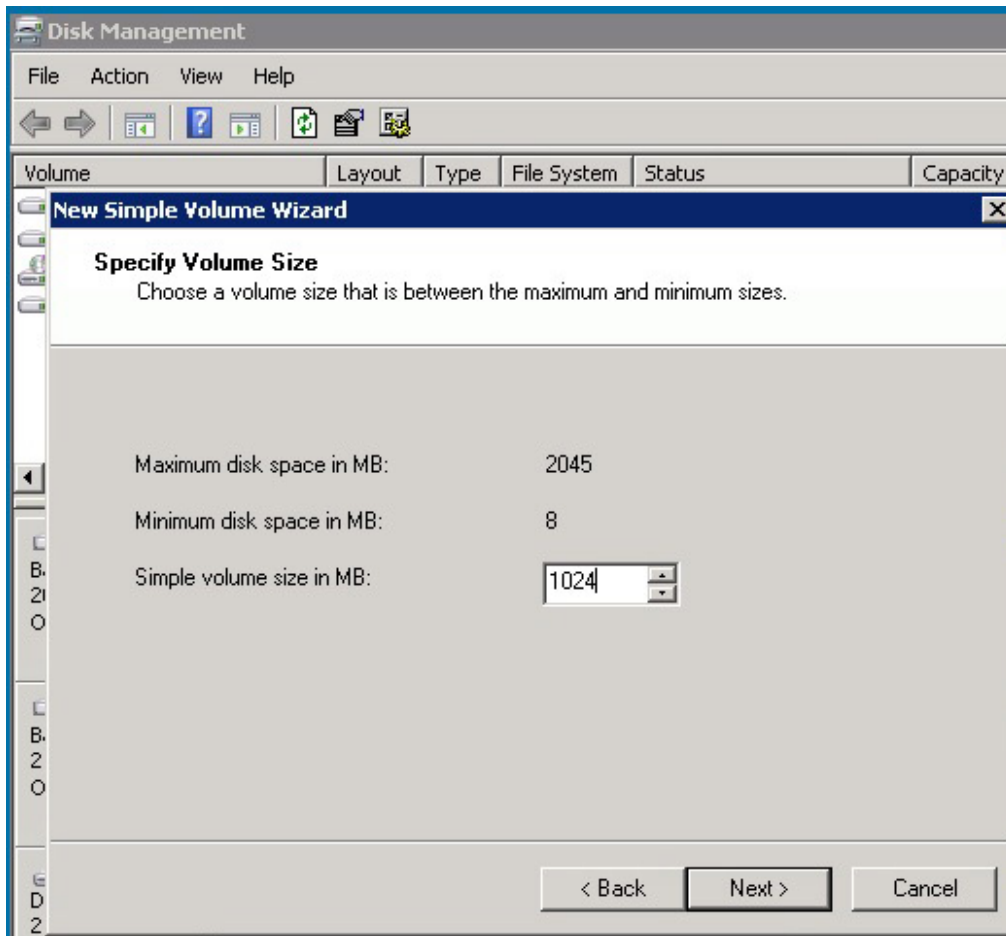
Here is a graphical representation of all the steps you would complete in the Disk Management tool for this task. First, you would right-click drive E and select Delete Volume.



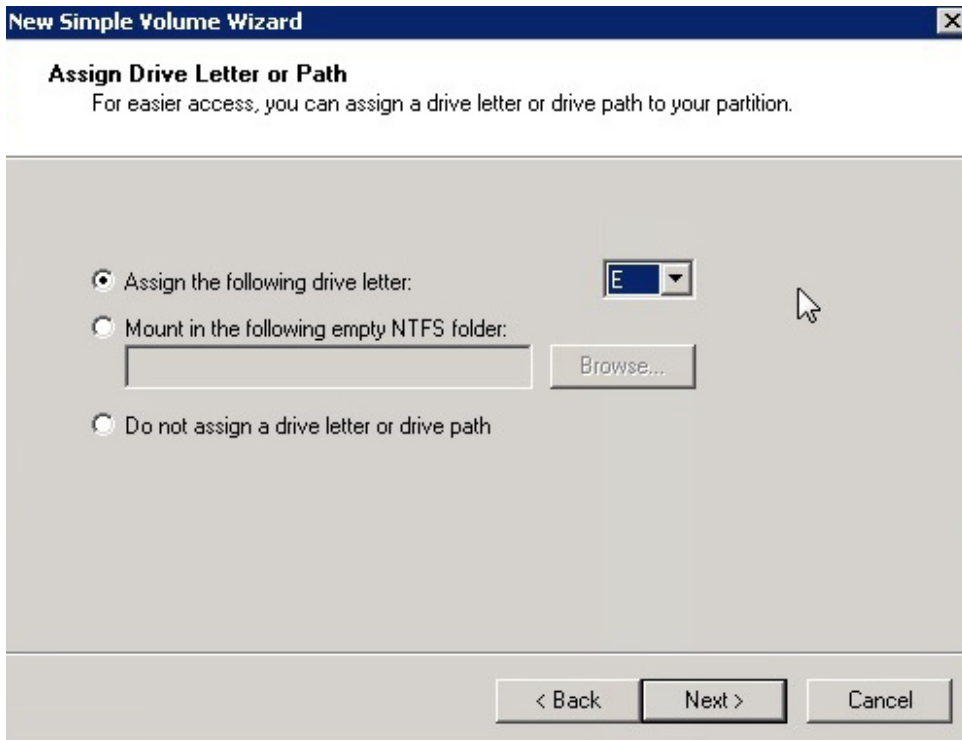
In the Delete Volume dialog box, click Yes. When the deletion is complete, right-click the unallocated Disk 1 and select New Simple Volume.



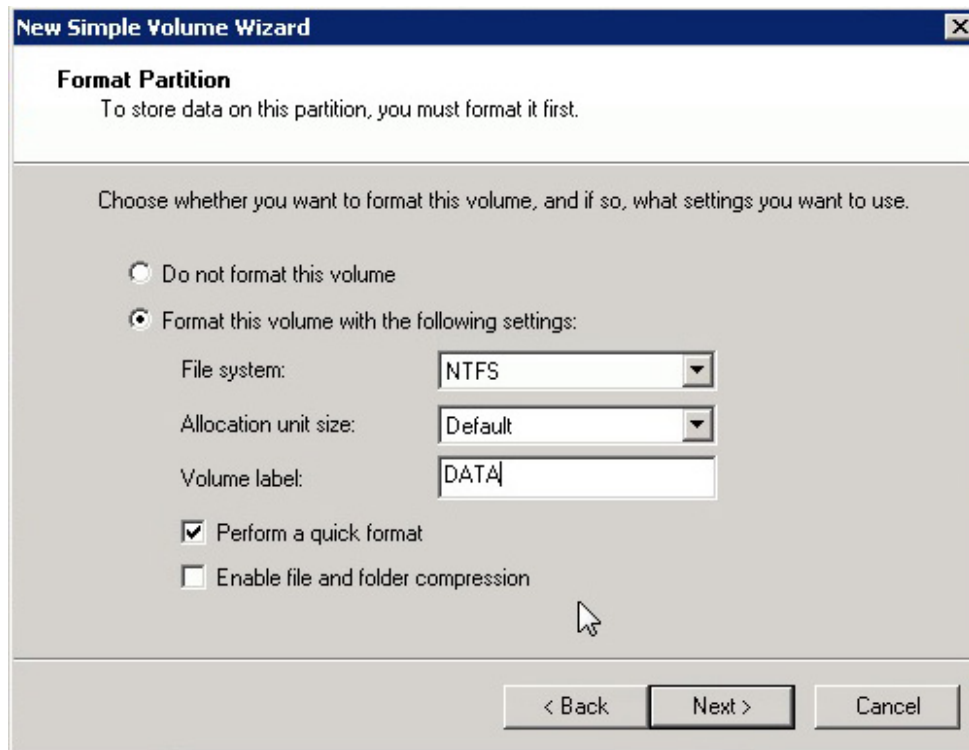
Click Next on the New Simple Volume Wizard. On the Specify Volume Size dialog box, change the volume size to 1,024 MB, and click Next.



On the Assign Drive Letter or Path dialog box, change the drive letter to E, and click Next.



On the Format Partition dialog box, enter DATA as the Volume label, and click Next.



New Simple Volume Wizard

Format Partition
To store data on this partition, you must format it first.

Choose whether you want to format this volume, and if so, what settings you want to use.

☐ Do not format this volume

☒ Format this volume with the following settings:

File system: NTFS

Allocation unit size: Default

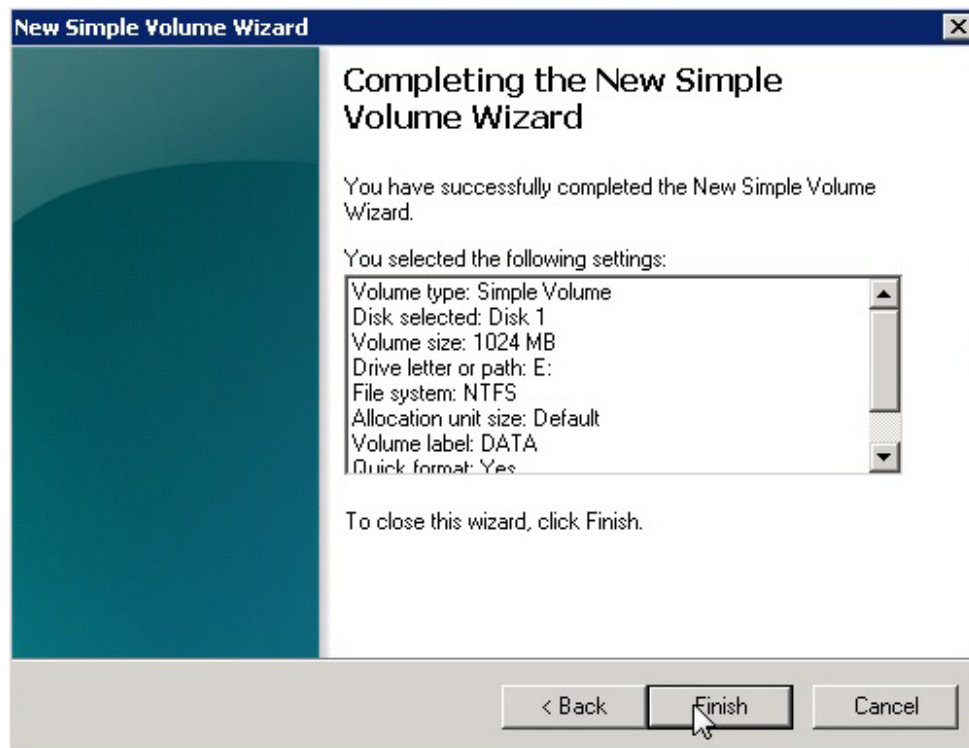
Volume label: DATA

☒ Perform a quick format

☐ Enable file and folder compression

< Back Next > Cancel

When the wizard is complete, click Finish.



New Simple Volume Wizard

Completing the New Simple Volume Wizard

You have successfully completed the New Simple Volume Wizard.

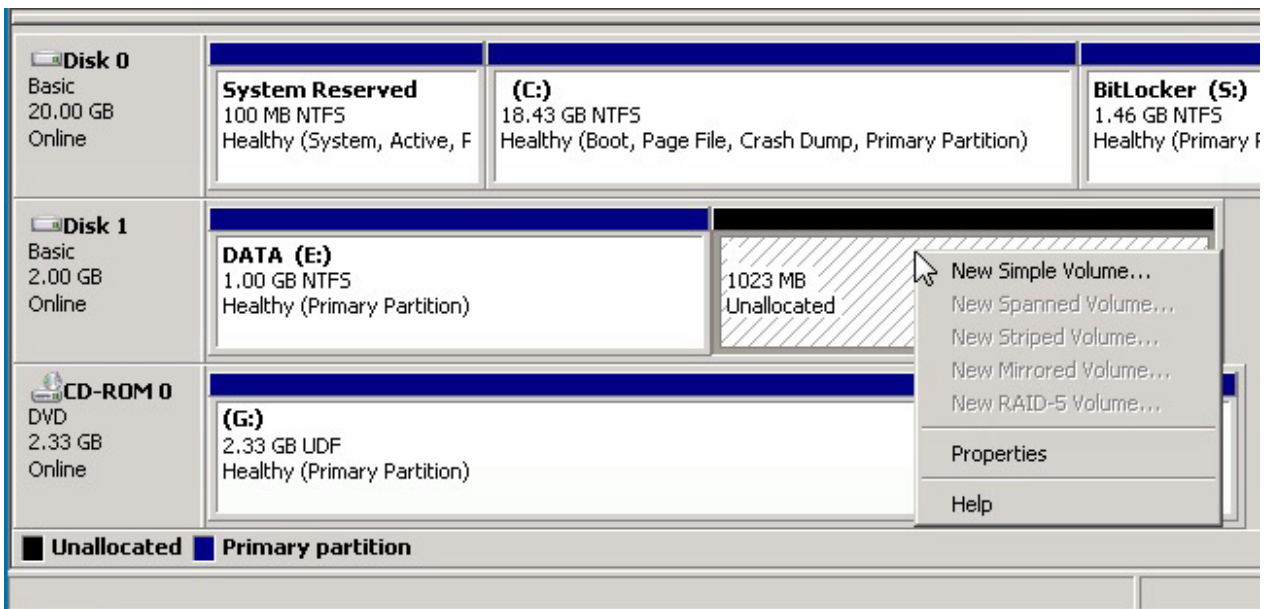
You selected the following settings:

- Volume type: Simple Volume
- Disk selected: Disk 1
- Volume size: 1024 MB
- Drive letter or path: E:
- File system: NTFS
- Allocation unit size: Default
- Volume label: DATA
- Quick format: Yes

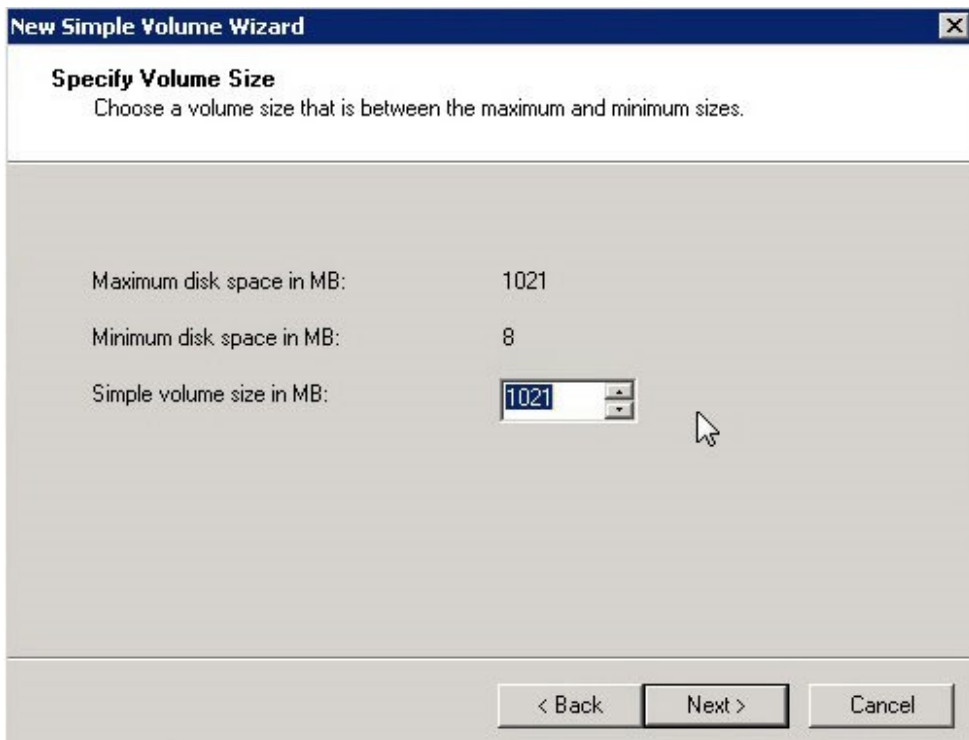
To close this wizard, click Finish.

< Back Finish Cancel

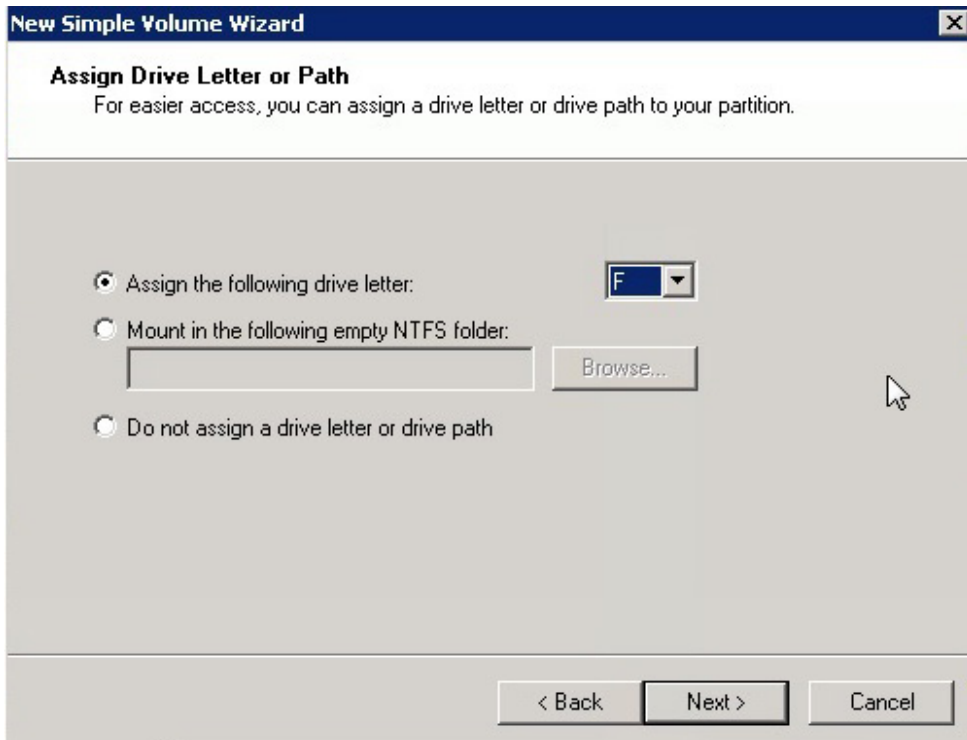
When drive E is complete, right-click the unallocated space on Disk 1, and select New Simple Volume.



Click Next on the New Simple Volume Wizard. On the Specify Volume Size dialog box, click Next without changing any values.



On the Assign Drive Letter or Path dialog box, change the drive letter to F and click Next.



New Simple Volume Wizard

Assign Drive Letter or Path
For easier access, you can assign a drive letter or drive path to your partition.

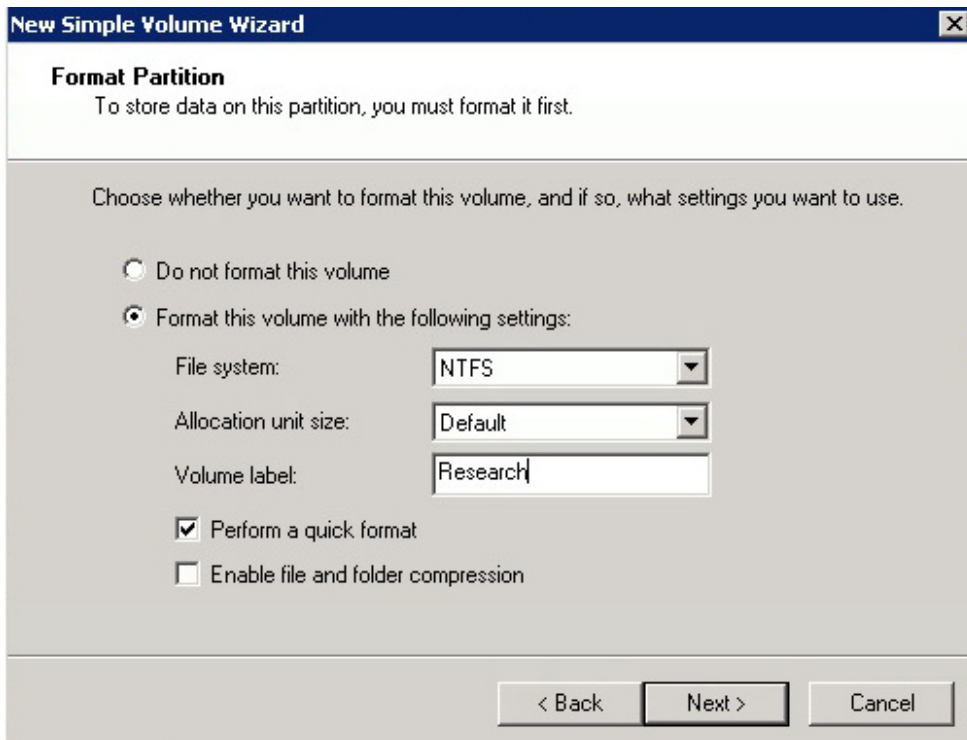
☒ Assign the following drive letter: F

☐ Mount in the following empty NTFS folder:
 Browse...

☐ Do not assign a drive letter or drive path

< Back Next > Cancel

On the Format Partition dialog box, change the Volume label to Research and click Next.



New Simple Volume Wizard

Format Partition
To store data on this partition, you must format it first.

Choose whether you want to format this volume, and if so, what settings you want to use.

☐ Do not format this volume

☒ Format this volume with the following settings:

File system: NTFS

Allocation unit size: Default

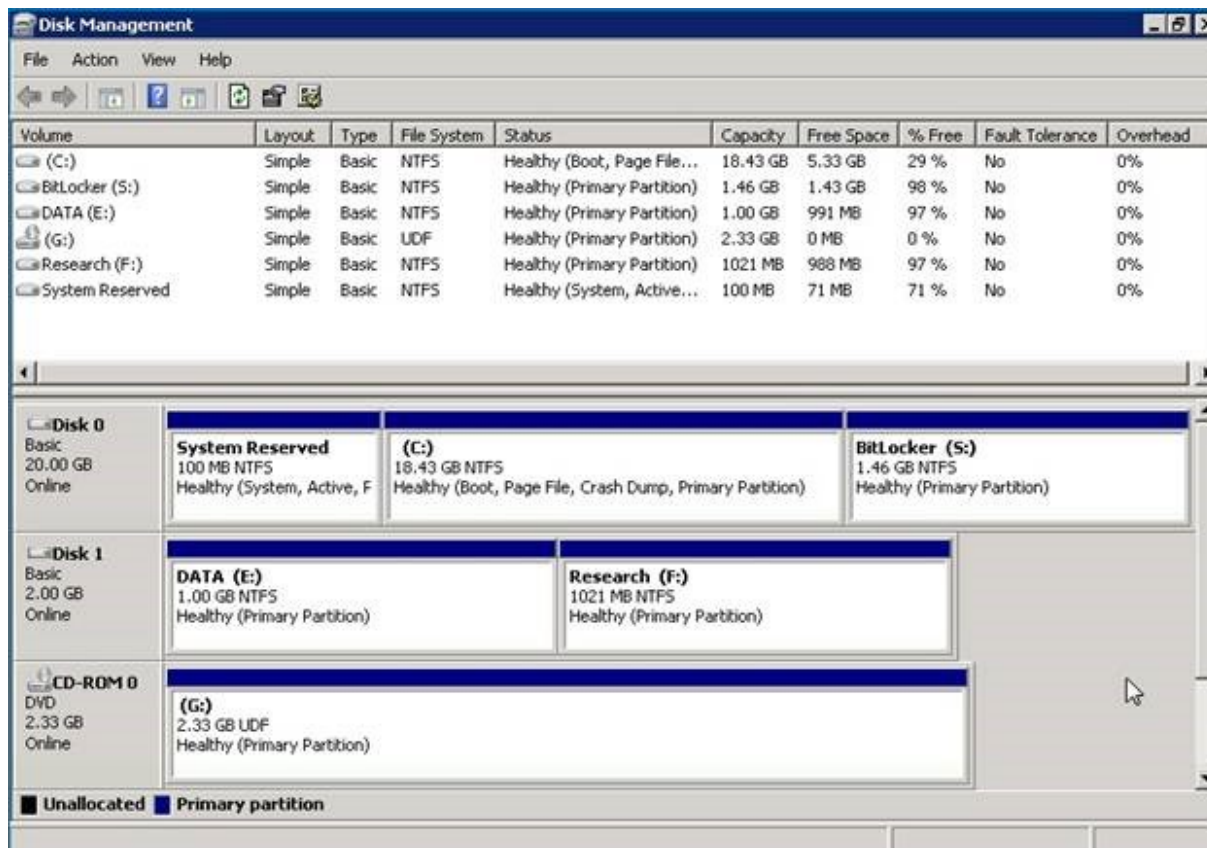
Volume label: Research

☒ Perform a quick format

☐ Enable file and folder compression

< Back Next > Cancel

When the wizard is complete, click Finish. When all the steps are complete, the Disk Management console should show drive E and F as follows:

**Objective:**

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:Disk Management, [https://technet.microsoft.com/en-us/library/cc770943\(v=ws.11\).aspx](https://technet.microsoft.com/en-us/library/cc770943(v=ws.11).aspx)[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #79 of 99

Question ID: 1176397

You are working at a client site and need to connect securely to the network at your home office. Which secondary network connection will allow you to do that?

- X A) Wireless
- X B) Dial-up
- ✓ C) VPN
- X D) WWAN

Explanation

A VPN connection, which is a secondary network connection, will allow you to securely connect to the network at your home office. A VPN requires that you first have an Internet connection. Once the Internet connection is established, you can then launch a secure VPN connection to your home office.

None of the other listed network connection types is a secondary network connection. WWAN or cellular connections use cellular networks to connect to the Internet. Wireless networks use wireless access points to connect to the Internet. Dial-up networks use dial-up connections to connect to the Internet.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

How to Connect to a VPN in Windows, <http://www.howtogeek.com/134046/how-to-connect-to-a-vpn-in-windows/>

Create a Dial-Up Networking connection on Windows 7, <https://support.earthlink.net/articles/dialup/create-a-dial-up-networking-connection-on-windows-7.php>

How to Connect to Wireless Networks in Windows 7, <http://www.digitalcitizen.life/how-connect-wireless-networks>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #80 of 99

Question ID: 1176333

You are responsible for purchasing new Windows computers for your company. The computers must be able to join your company's domain. Which versions of Windows should you implement? (Choose all that apply.)

- ✓ **A)** Windows 7 Ultimate
- ✓ **B)** Windows 7 Professional
- ✓ **C)** Windows 8 Professional
- X **D)** Windows 7 Home Premium
- X **E)** Windows 7 Starter

Explanation

You should implement Windows 8 Professional, Windows 7 Professional, or Windows 7 Ultimate so that the new computers can join your company's domain.

The other versions of Windows 7 do not allow the computers to join a domain. Windows 7 editions include Windows 7 Starter, Windows 7 Home Premium, Windows 7 Professional, Windows 7 Ultimate, and Windows 7 Enterprise.

Windows 8 Professional and Windows 8.1 Professional also support domain membership.

Windows 10 Pro and Enterprise also support domain membership.

For the A+ exam, you need to understand corporate versus personal needs regarding domain access. A home edition of the operating system will not support domain membership because it is considered a personal edition of the operating system. If a user needs to access a corporate domain from his or her personal computer, he or she will need to upgrade to an operating system edition that supports domain membership.

Objective:

Operating Systems

Sub-Objective:

Compare and contrast features of Microsoft Windows versions.

References:

Windows 7 Versions Comparison, <https://helpdeskgeek.com/windows-7/windows-7-versions/>

Compare Windows 8.1 Editions, <https://www.eightforums.com/threads/compare-windows-8-1-editions.32281/>

Windows 10 Editions Compared, <https://www.anandtech.com/show/9413/windows-10-editions-compared>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1. 2 Compare and contrast features of Microsoft Windows versions

Question #81 of 99

Question ID: 1202750

Which of the following tablet operating systems typically follows a yearly schedule for major version updates?

- X **A)** Chrome OS
- X **B)** Microsoft Windows
- X **C)** iOS
- ✓ **D)** Android

Explanation

The Android operating system versions are typically updated on a yearly basis. While there are version numbers, the updates are normally referred to by their names. The most recent versions are Marshmallow, Nougat, Oreo, and Pie. They are all named after some type of confection or food. The next version after Pie will start with the letter Q.

Microsoft does follow a schedule for its major updates. However, Microsoft generally releases updates once a week on a Tuesday, often referred to as Patch Tuesday.

Chrome OS updates are processed as frequently as every two to three weeks. This allows Google to process much smaller updates. Smaller updates means decreasing the time needed to install the updates, minimizing the intrusion into the availability of the device being updated.

Objective:

Operating Systems

Sub-Objective:

Compare and contrast common operating system types and their purposes.

References:

What's the Latest Version of Android?, <https://www.howtogeek.com/345250/whats-the-latest-version-of-android/>

Question #82 of 99

Question ID: 1176375

You need to check the startup configuration for several services. From which tools can you access the Services console? (Choose all that apply.)

- ☐ A) System Properties
- ☒ B) Computer Management
- ☒ C) Administrative Tools
- ☐ D) Device Manager

Explanation

You can access the Services console from the Computer Management console or the Administrative Tools console. All of these tools have a console called Services. You can also access the Services console using the Microsoft Management Console (MMC) by typing services.msc in the Run dialog box.

System Properties and Device Manager do not contain the Services console. The System Properties dialog box displays basic information about your computer, including the computer name, workgroup or domain name, and the operating system version. Device Manager displays all devices installed on your computer and should be used to determine resource conflicts, including IRQ issues. In Device Manager, you can view devices (including hidden devices), I/O address ranges, IRQs used, and device driver information.

For the A+ exam, you need to be familiar with the following Windows Administrative applications or tools:

- Computer Management - This console includes Device Manager, Event Viewer, Shared Folders, Performance/Performance Logs and Alerts (depending on the operating system), and possibly Local Users and

Groups and Task Scheduler. This is the console you would open for most computer management tasks.

- Device Manager - This console can be accessed in many different manners, but is usually accessed via the Computer Management console or Control Panel. It lists all installed hardware and allows you to add and remove hardware, update drivers, and reconfigure hardware.
- Users and Groups - For computers in a workgroup environment, this console is called Local Users and Groups. For computers in a domain environment, the console used is Active Directory Users and Computers. In either network environment, this is where you configure user and group accounts, including password settings. In Windows 7 deployments, you must have at minimum Windows 7 Professional to access the Local Users and Groups console. In Windows 8, this feature is only available in the Pro version.
- Local Security Policy - You can edit the local security policy by running secpol.msc. This allows you to configure local security settings, including password policies and audit policies. For Windows 7, the local security policy can only be configured in Windows 7 Professional or higher. For Windows 8, this feature is only available in the Pro or Enterprise version.
- Performance Monitor - While Performance Monitor differs depending on the operating system, its purpose is the same: to use performance counters to gather performance statistics. Usually two tools are tied together: System Monitor and Performance Logs and Alerts.
- Services - This console can be opened by running services.msc at the Run command line. It can also be accessed in the Computer Management console or Administrative Tools. It is used to start, stop, or pause services.
- System Configuration - This tool can be accessed by running msconfig at the command line. This tool includes five tabs: General, Boot, Services, Startup, and Tools. It is mainly used to troubleshoot startup issues.
- Task Scheduler - This tool allows you to schedule jobs to run. The jobs you can run include backup tasks, disk defragmentation tasks, and other maintenance jobs. You can schedule the jobs to run once, daily, weekly, monthly, at startup, or at logon.
- Component Services - This tool is in Administrative Tools and is used to manage component services.
- Data Sources - This tool is also located in Administrative Tools and is used to manage how a computer connects to a data provider.
- Print Management - This tool is available in Windows 7 or higher. It allows you to manage printers and print servers.
- Windows Memory Diagnostics - This tool is available in Windows 7 and higher, and is used to check for memory problems. It requires a system reboot. At the reboot, the memory test will run.
- Windows Firewall - This tool is accessed from the Control Panel and is used to configure firewall settings on the local computer.
- Advanced Security - This part of Windows firewall is available in Windows 7 and higher. Windows Firewall with Advanced Security is more powerful than Windows Firewall and can manage security associations and security rules.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

Using the Microsoft Windows Services console, <http://solutionfile.trendmicro.com/SolutionFile/Linkbank/en/Services.htm>

Configuring Microsoft Management Console in Windows 7, <https://searchitchannel.techtarget.com/tip/Configuring-Microsoft-Management-Console-in-Windows-7>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #83 of 99

Question ID: 1176391

You purchased several new computers with dual physical processor configurations. The new computers have dual 1-gigahertz (GHz) processors and 2 gigabytes (GB) of RAM. Which editions of Windows 7 could you install to be able to utilize all components? (Choose all that apply.)

- ☐ A) Windows 7 Home Premium
- ☒ B) Windows 7 Professional
- ☐ C) Windows 7 Home Basic
- ☒ D) Windows 7 Enterprise

Explanation

You could install Windows 7 Professional or Enterprise on computers that have dual 1-GHz processors and 2 GB of RAM. Computers with dual processors can only run Windows 7 Professional, Enterprise, or Ultimate.

The minimum hardware requirements for Windows 7 are as follows:

- 1 GHz or faster 32-bit (x86) or 64-bit (x64) processor
- 1 GB RAM (32-bit) or 2 GB RAM (64-bit)
- 16 GB available hard disk space (32-bit) or 20 GB (64-bit)
- DirectX 9 graphics device with WDDM 1.0 or higher driver

Windows 8 and 8.1 have the following minimum requirements:

- 1 GHz 32- or 64-bit processor with support for PAE, NX and SSE2
- 1 GB RAM (32-bit), 2 GB RAM (64-bit)
- 16 GB hard drive space (32-bit) or 20GB (64-bit)
- DirectX 9 graphics card with WDDM driver

Windows 10 has the following minimum requirements:

- Processor: At least 1 GHz or SoC
- RAM: 1 GB for 32-bit or 2 GB for 64-bit
- Hard disk space: 16 GB for 32-bit OS or 20 GB for 64-bit OS
- Graphics card: DirectX 9 or later with WDDM 1.0 driver
- Display: 800 x 600

Objective:

Operating Systems

Sub-Objective:

Summarize application installation and configuration concepts.

References:

Windows 7 System Requirements, <https://support.microsoft.com/en-us/help/10737/windows-7-system-requirements>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.7

Summarize application installation and configuration concepts

Question #84 of 99

Question ID: 1202758

You need to reinstall Windows 7 on a client computer. The old hard drive crashed, and you are using the original installation DVD from 2014. You have an Internet connection. What is the best way to make sure you have the most current drivers and updates?

- ✓ **A)** Accept the option to download updates and new driver packages.
- X **B)** Do nothing. No driver or patch updates are necessary.
- X **C)** Download all the drivers and patches on another machine, burn a DVD, and update from the DVD when installation is complete.
- X **D)** Proceed with the installation, and update drivers and patches via the Internet when installation is complete.

Explanation

In this scenario, the best way to make sure you have the most current drivers and updates is to accept the option to download updates and new driver packages. This will allow the drivers and updates to be processed during the installation. This solution applies to Windows 7, Windows 8, Windows 8.1, and Windows 10.

You should not proceed with the installation and update drivers and patches via the Internet when the installation is complete. This is not the recommended practice for updates during installation.

Driver and patch updates are necessary. You cannot ignore them.

You should not download all the drivers and patches on another machine, burn a DVD, and update from the DVD when installation is complete. This solution will only reflect the other machine's most recent versions at the time the DVD was burned.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Building a New Computer Part 4: Installing Windows and Loading Drivers, <http://www.howtogeek.com/howto/the-geek-blog/building-a-new-computer-part-4-installing-windows-and-loading-drivers/>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #85 of 99

Question ID: 1176342

You do not have the original installation media, but you need to restore Windows to the original factory settings. What is the quickest way to do this?

- ☐ A) Boot into Safe Mode.
- ☐ B) Purchase a new copy of Windows.
- ☒ C) Install from the recovery partition.
- ☐ D) Email or call the computer manufacturer and ask for a restore DVD.

Explanation

The quickest way to restore Windows to the original factory setting in this scenario is to install from the recovery partition. This applies to Windows 7, Windows 8, Windows 8.1, and Windows 10.

The recovery partition is a portion of the hard drive where most manufacturers install a restore image of the operating system. Restoring from the recovery partition is typically done by entering a specific keystroke during POST. Once you enter the BIOS, you can direct it to reboot from the recovery partition.

You may email or call the manufacturer to request a restore DVD, but it will take time to either have one mailed to you or to download the image.

You may purchase a new copy of Windows, but that will not restore the computer to the state it was in when it came from the factory. For example, the new copy of Windows will not have all the appropriate drivers preconfigured.

Bootting into Safe Mode will load Windows with a basic set of drivers, so that you can get into the operating system, make corrections to drivers and settings, and get the system running again. It does not restore the system to factory settings.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Recovery partition, <http://www.tomshardware.com/forum/242051-44-recovery-partition>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #86 of 99

Question ID: 1202761

You need to locally install Windows 7 Ultimate on a new computer. Which installation method is most likely?

- X A) PXE
- ✓ B) DVD
- X C) Network
- X D) CD

Explanation

The installation method that you will most likely use to locally install Windows 7 Ultimate on a new computer is an installation DVD.

A network installation is not considered a local installation. Network installations use a network share to store the installation files.

A network installation works using a Preboot eXecution Environment (PXE) on the local computer. When a PXE-enabled computer starts, it obtains an IP address from the DHCP server and then contacts the server.

Windows 7 is not available on CD. CDs do not hold enough data for a Windows 7 installation.

For the A+ exam, you need to be familiar with the following installation techniques and installation components:

- System image - When you create a system image, you take a snapshot of a computer and apply that snapshot to other computers. This usually involves using the system preparation tool, Sysprep. ImageX is preferred over Sysprep in Windows 7. Sysprep will remove the security ID of the master computer and generate new IDs for each computer on which the image is to be installed. Keep in mind that Sysprep requires all target computers to have identical or nearly identical hardware configurations. If they do not, driver problems will need to be resolved after the installation.
- Unattended installation - This type of installation involves the use of an answer file. The answer file provides all the information that is manually provided by the technician during a manual installation. Often this answer file is placed on a network server with the image files or the operating system installation files.
- In-place upgrade - This type of installation involves upgrading from one operating system to another, while keeping as many settings as possible. Make sure that you understand all the possible upgrade paths for the operating systems on

the exam (Windows 7, Windows 8, Windows 8.1, and Windows 10). You can also upgrade from one edition of an operating system to another (for example, from Windows 7 Home Premium to Windows 7 Professional). In most cases, you should ensure that all the hardware in the computer is sufficient to run the new operating system. Microsoft usually provides an application that will check this for you. For example, the Windows 7 Upgrade Advisor will see if your computer is ready for Windows 7. Windows 8 has a similar tool, the Windows 8 Upgrade Assistant (updateable to 8.1) to check for compatibility.

- Clean install - This type of installation involves installing a new operating system. Even if the computer has a previous operating system installed, a clean install does not retain any settings from the previous operating system, meaning that user accounts and settings will need to be recreated and applications will need to be reinstalled.
- Repair installation - This type of installation repairs an operating system by overwriting the currently installed files with the version of the file from the installation media (usually DVD). This type of installation will not change any settings.
- Multiboot - This type of environment allows multiple operating systems to be installed on the same computer. It involves modifying the boot.ini file so that the user can select which operating system to boot. Many companies are now choosing to use virtual machines instead of a multiboot environment.
- Remote network installation - In a network installation, the installation files (that are in the i386 folder on the installation media) are copied to a network location. Individual computers then boot, access the network share, and install the operating system. This often involves the use of a Preboot eXecution Environment (PXE).
- Image deployment - System images can be created using imaging tools. These image files are then placed on a network server so that they can be deployed across the network.
- Recovery Partition - In Windows, a recovery partition allows you to restore the operating system to its factory defaults. This recovery partition will allow you to refresh your computer without losing your files, remove everything and reinstall Windows, or restore to an earlier point in time (which requires System Restore to be set up on your computer.)
- Refresh/Restore - Refreshing keeps your personal files and settings. Restoring will allow you to undo system changes. They are different ways to use the recovery partition.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Windows 7 Installation – a Complete Guide <https://www.brighthub.com/computing/windows-platform/articles/81218.aspx>

How to refresh, reset, or restore your PC, <http://windows.microsoft.com/en-us/windows-8/restore-refresh-reset-pc>

Windows 10 Upgrade Paths, <https://docs.microsoft.com/en-us/windows/deployment/upgrade/windows-10-upgrade-paths>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3

Summarize general OS installation considerations and upgrade methods

Question #87 of 99

Question ID: 1176412

You are document the system tool within Mac operating systems. Which of the following should you cover?

- X **A)** Dolphin
- X **B)** Task Manager
- X **C)** Task Scheduler
- ✓ **D)** Force Quit

Explanation

Force Quit is a system tool within Mac operating systems. Force Quit is a feature in both Mac and Linux operating systems, and is analogous to opening Task Manager and selecting End Process in Windows. On a Mac computer, press Command-Option-Escape, which brings up the Force Quit Application window. Select the application you wish to quit, and then click Force Quit. On a Linux computer, Press Alt-Fw, enter xkill, and then select the application you want to force quit. You can add a Force Quit icon onto the Taskbar

Task Manager and Task Scheduler are Windows system tools.

Dolphin is a Linux system tool that is similar to Windows Explorer or Finder in the Mac operating system.

For the A+ exam, you must understand the Backup/Time Machine, restore/snapshot, image recovery, disk maintenance, Shell/Terminal, screen sharing, and Force Quit tools. Those tools are described in the following exhibit:

	Mac OS	Linux
Backup/Time Machine	Use the Time Machine application	Embedded tools include <i>tar</i> and <i>cpio</i>
Restore/snapshot	Use the Time Machine application	Use the embedded tool <i>lvcreate-s</i> to create a snapshot.
Image recovery	Use the Disk Utility tool	Use the embedded <i>rsync</i> tool to recover a previously saved image
Disk maintenance utilities	Disk maintenance utilities include Time Machine, Disk Utilities and others	Disk maintenance utilities include <i>rsync</i> , <i>fsck</i> , <i>tar</i> , <i>lvcreate</i> and others.
Shell/Terminal	With Mac computers, the shell (where you enter Unix-type commands) is accessed through Applications-Utilities-Terminal	With Linux computers, shell and terminal are two different things. The key combination CTRL-T will open a terminal window, from which you can run one of several shells.
Screen sharing	You can share the Mac screen through (Apple menu)-	Available through many third-party applications
Force Quit	Analogous to Task Manager-End Process in Windows. Press Command-Option-Escape, which brings up the Force Quit Application window. Select the application you wish to quit, then click Force Quit	Analogous to Task Manager-End Process in Windows. Press alt-f2, type in xkill, then select the application to force quit. You can also add a Force Quit icon onto the Task Bar

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems.

References:

Force an app to close on your Mac, <https://support.apple.com/en-us/HT201276>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.9 Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems

Question #88 of 99

Question ID: 1202770

An IT technician reports that he ran the sfc utility on a user's computer. Why would this utility be used?

- X **A)** It detects signed and unsigned device drivers on a computer.
- X **B)** It lists information about drivers running on a computer.
- X **C)** It monitors changes to protected system files.
- ✓ **D)** It repopulates the dllcache folder when contents are corrupted.

Explanation

The System File Checker (sfc) utility repopulates the dllcache folder when the contents are corrupt. The following exhibit shows the sfc /scannow command being run:



```
Administrator: Command Prompt - sfc /scannow
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Windows\system32>sfc /scannow

Beginning system scan. This process will take some time.
Beginning verification phase of system scan.
Verification 16% complete._
```

The Windows File Protection (wfp) service monitors changes to protected system files. The Driver Query tool lists information about drivers running on your computer. The File Signature Verification tool detects signed and unsigned device drivers on your computer.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use appropriate Microsoft command line tools.

References:

Use the System File Checker tool to repair missing or corrupted system files, <https://support.microsoft.com/en-us/help/929833/use-the-system-file-checker-tool-to-repair-missing-or-corrupted-system>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.4 Given a scenario, use appropriate Microsoft command line tools

Question #89 of 99

Question ID: 1202791

You need to configure your Windows 7 computer so that it automatically connects to the Development share on a server named FileSrv each time it boots. You want this share to be configured as the N drive.

You click Start and Computer. You select the Map Network Drive option. The Map Network Drive dialog box is displayed. What should you do?

- X **A)** In the Drive field, select N. In the Folder field, enter \\Development\FileSrv. Clear the Reconnect at Logon option. Click Finish.
- ✓ **B)** In the Drive field, select N. In the Folder field, enter \\FileSrv\Development. Select the Reconnect at Logon option. Click Finish.
- X **C)** In the Drive field, select N. In the Folder field, enter \\FileSrv\Development. Clear the Reconnect at Logon option. Click Finish.
- X **D)** In the Drive field, select N. In the Folder field, enter \\Development\FileSrv. Select the Reconnect at Logon option. Click Finish.

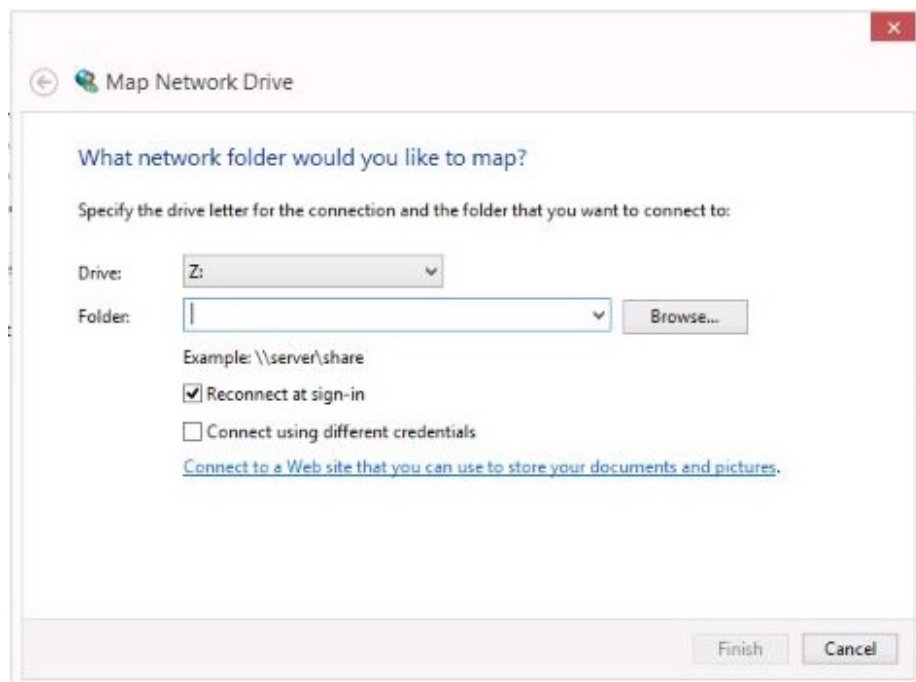
Explanation

You should select N in the Drive field, enter \\FileSrv\Development in the Folder field, select the Reconnect at Logon option, and click Finish.

To map a drive in Windows 7, you should first select the Tools and Map network drive options in Explorer as shown in the following exhibit:

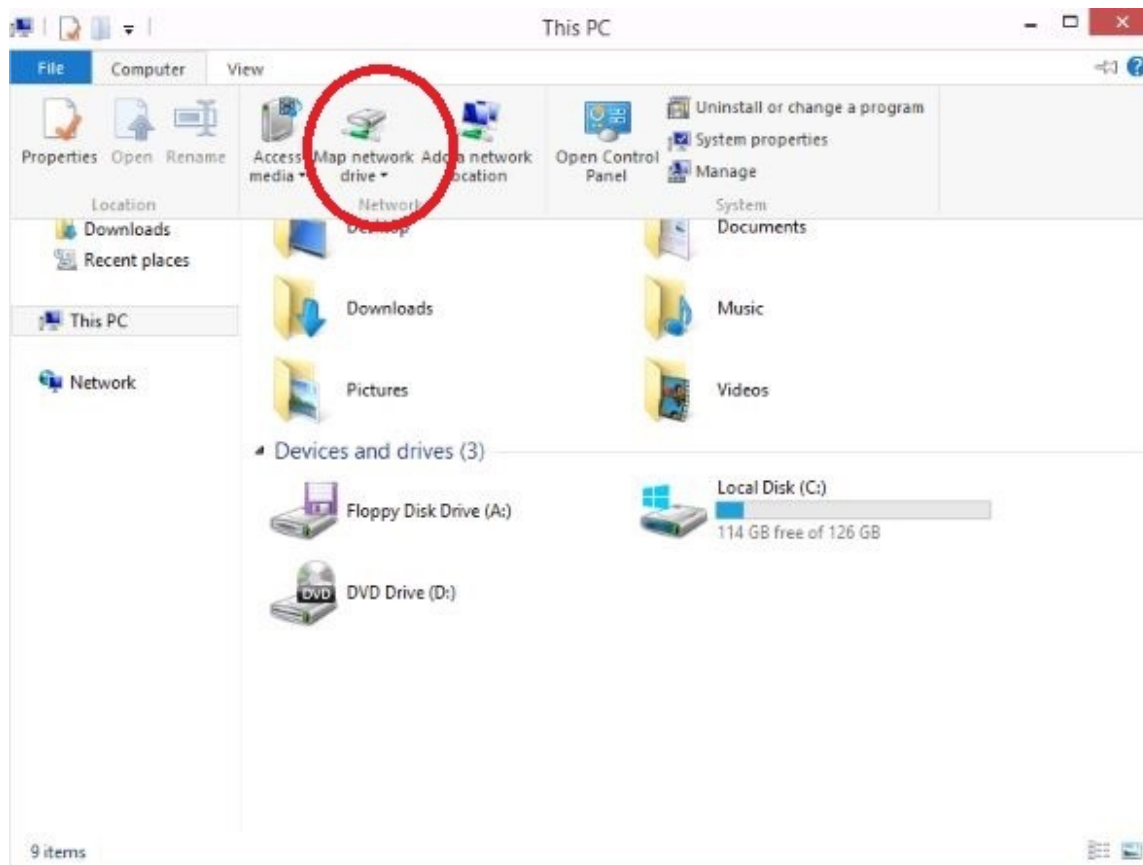


The Map Network Drive dialog box will then be displayed as shown in the following exhibit:



You would select the drive letter that you want to use and then enter the appropriate mapping or use the Browse feature to locate the folder.

The Windows 8 drive mapping process is slightly different. From the Computer dialog box, you would select the Map network drive option as shown in the following exhibit:



You can select from the available drive letters, then browse for the folder or file to which you wish to connect. Click Finish at the end.

Alternatively, you could enter the net use command: `net use r: /persistent:yes \\Srv1\Research`. This net use command will work in Windows 7 and higher. The net use command syntax is:

```
net use drive_letter: \\computer_name\share_name //Persistent:Yes
```

Here are the possible parameters to use with the net use command:

- drive_letter - lists the drive letter that you want to use.
- \\computer_name\share_name - lists the computer on which the share exists and its share name.
- //Persistent:Yes - allows the computer to reconnect to the share with each reboot. If set to No, the mapping will be lost when the computer reboots.
- /User:domain_name\user_name - lists the credentials that should be used when mapping the drive.

You should not clear the Reconnect at Logon option. This would prevent your computer from automatically connecting to the drive at boot time.

You should not map the drive to the \\Development\FileSrv share. The proper syntax is \\server_name\share_name.

For the A+ exam, you also need to understand the net user command, which is used to add, remove, and make changes to user account. The syntax for this command is shown in the following exhibit:

NET USER

```
[username [password | *] [options]] [/DOMAIN]
    username {password | *} /ADD [options] [/DOMAIN]
    username [/DELETE] [/DOMAIN]
    username [/TIMES:{times | ALL}]
    username [/ACTIVE: {YES | NO}]
```

NET USER creates and modifies user accounts on computers. When used without switches, it lists the user accounts for the computer. The user account information is stored in the user accounts database.

username	Is the name of the user account to add, delete, modify, or view. The name of the user account can have as many as 20 characters.
password	Assigns or changes a password for the user's account. A password must satisfy the minimum length set with the /MINPWLEN option of the NET ACCOUNTS command. It can have as many as 14 characters.
*	Produces a prompt for the password. The password is not displayed when you type it at a password prompt.
/DOMAIN	Performs the operation on a domain controller of the current domain.
/ADD	Adds a user account to the user accounts database.
/DELETE	Removes a user account from the user accounts database.

The options that can be used with this command are shown in the following exhibit:

Options Are as follows:

Options	Description
/ACTIVE:{YES NO}	Activates or deactivates the account. If the account is not active, the user cannot access the server. The default is YES.
/COMMENT:"text"	Provides a descriptive comment about the user's account. Enclose the text in quotation marks.
/COUNTRYCODE:nnn	Uses the operating system country/region code to implement the specified language files for a user's help and error messages. A value of 0 signifies the default country/region code.
/EXPIRES:{date NEVER}	Causes the account to expire if date is set. NEVER sets no time limit on the account. An expiration date is in the form mm/dd/yy(yy). Months can be a number, spelled out, or abbreviated with three letters. Year can be two or four numbers. Use slashes(/) (no spaces) to separate parts of the date.
/FULLNAME:"name"	Is a user's full name (rather than a username). Enclose the name in quotation marks.
/HOMEDIR:pathname	Sets the path for the user's home directory. The path must exist.
/PASSWORDCHG:{YES NO}	Specifies whether users can change their own password. The default is YES.
/PASSWORDREQ:{YES NO}	Specifies whether a user account must have a password. The default is YES.
/LOGONPASSWORDCHG:{YES NO}	Specifies whether user should change their own password at the next logon. The default is NO.
/PROFILEPATH[:path]	Sets a path for the user's logon profile.
/SCRIPTPATH:pathname	Is the location of the user's logon script.
/TIMES:{times *}	Is the logon hours. TIMES is expressed as day[-day][,day[-day]],time[-time][,time[-time]], limited to 1-hour increments. Days can be spelled out or abbreviated. Hours can be 12- or 24-hour notation. For 12-hour notation, use am, pm, a.m., or p.m. ALL means a user can always log on, and a blank value means a user can never log on. Separate day and time entries with a comma, and separate multiple day and time entries with a semicolon.
/USERCOMMENT:"text"	Lets an administrator add or change the User Comment for the account.
/WORKSTATIONS:{computername[,...] *}	Lists as many as eight computers from which a user can log on to the network. If /WORKSTATIONS has no list or if the list is *, the user can log on from any computer.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

How to Map a Network Drive using Windows 7, Windows Vista, and Windows Server 2008,

<http://www.groovypost.com/howto/microsoft/vista/map-a-network-drive-using-windows-vista-or-windows-server-2008/>

Map a network drive, <https://support.microsoft.com/en-us/help/4026635/windows-map-a-network-drive>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #90 of 99

Question ID: 1202755

A user contacts you regarding a Windows computer that is no longer being used by his department. He wants to return the computer to its original settings. Which of the following should you advise him to use?

- X **A)** Application compatibility
- X **B)** Time/date/region/language settings
- ✓ **C)** Factory recovery partition
- X **D)** OS compatibility/upgrade path

Explanation

You should advise him to use the factory recovery partition. This is a system image of the operating system and applications installed on the machine when it came out of the factory. It is a good idea to create recovery disks from that partition.

Time/date/region/language settings allow you to provide the user with settings that are relevant to their location. Time settings adjust to the time zone, date formats vary with countries, and language settings allow for alternate spellings, special keyboard characters and currency symbols.

Application compatibility is a concern during installation and upgrades. To check an application's compatibility, launch the Program Compatibility Troubleshooter in the Control Panel.

OS compatibility/upgrade path are both considerations with Windows. For example, if you want to upgrade from Windows 8 to Windows 10, you must install Windows 8.1 first. Windows 10 upgrade paths are fully described here: [Microsoft Docs > Windows > Deployment > Windows 10 upgrade paths](#)

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

Factory recovery - Create a Custom Recovery Partition, <https://www.tenforums.com/tutorials/106215-factory-recovery-create-custom-recovery-partition.html>

Question #91 of 99

Question ID: 1202769

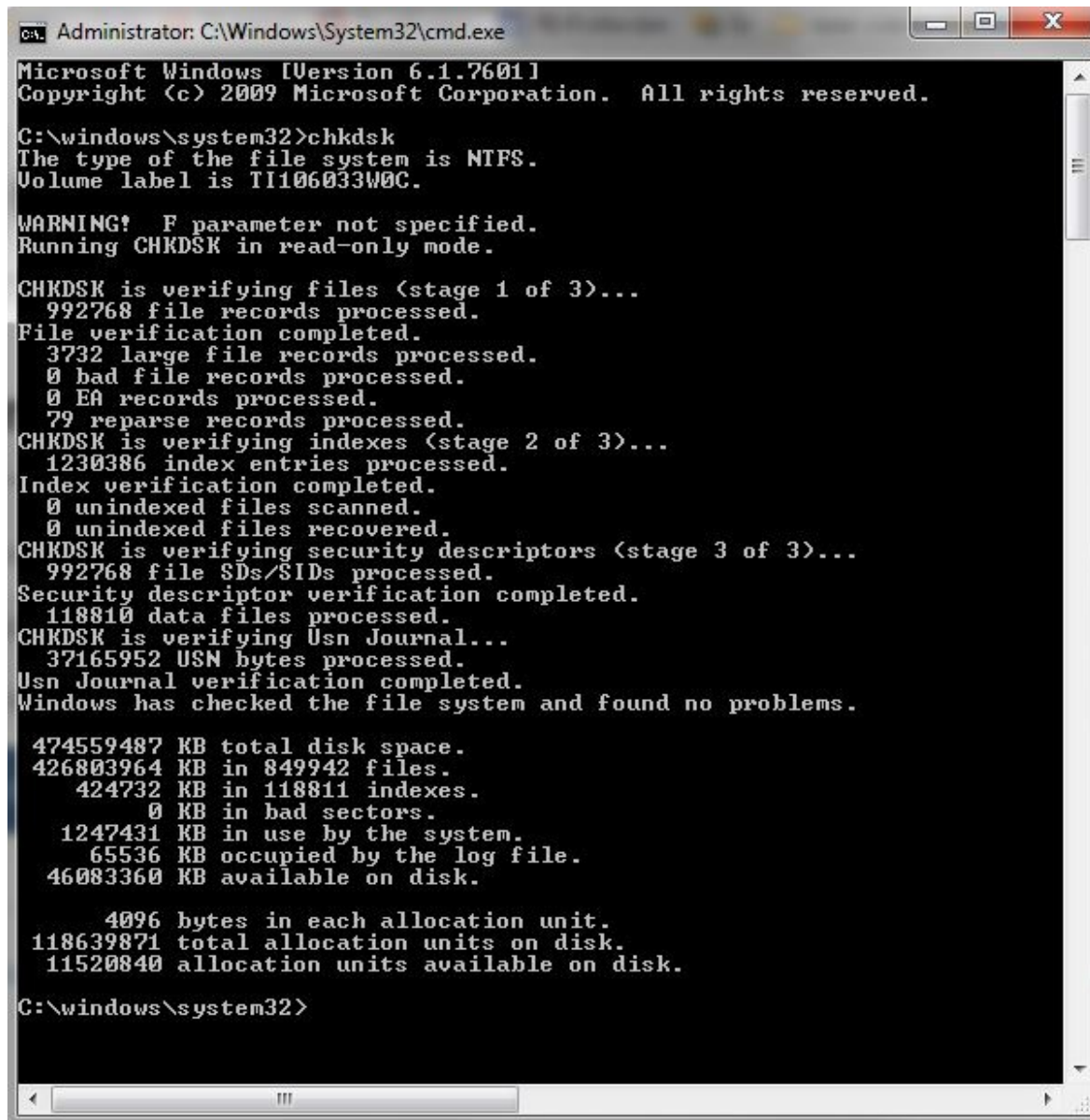
A user contacts you asking if she should run the chkdsk command on her computer. Why would you use this command?

- X A) To repair the master boot record (MBR) on the boot partition
- X B) To write new boot sector code on the system partition
- ✓ C) To check the specified drive and repair possible problems
- X D) To manage hard drive partitions

Explanation

The chkdsk command checks the specified drive and repairs possible problems.

The chkdsk command has many parameters that are used to resolve disk issues. They are shown in the following exhibit:



```
Administrator: C:\Windows\System32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\windows\system32>chkdsk
The type of the file system is NTFS.
Volume label is TI106033W0C.

WARNING! F parameter not specified.
Running CHKDSK in read-only mode.

CHKDSK is verifying files (stage 1 of 3)...
 992768 file records processed.
File verification completed.
 3732 large file records processed.
 0 bad file records processed.
 0 EA records processed.
 79 reparse records processed.
CHKDSK is verifying indexes (stage 2 of 3)...
1230386 index entries processed.
Index verification completed.
 0 unindexed files scanned.
 0 unindexed files recovered.
CHKDSK is verifying security descriptors (stage 3 of 3)...
 992768 file SDs/SIDs processed.
Security descriptor verification completed.
118810 data files processed.
CHKDSK is verifying Usn Journal...
 37165952 USN bytes processed.
Usn Journal verification completed.
Windows has checked the file system and found no problems.

474559487 KB total disk space.
426803964 KB in 849942 files.
 424732 KB in 118811 indexes.
   0 KB in bad sectors.
1247431 KB in use by the system.
 65536 KB occupied by the log file.
46083360 KB available on disk.

    4096 bytes in each allocation unit.
118639871 total allocation units on disk.
11520840 allocation units available on disk.

C:\windows\system32>
```

You can also run this utility by right-clicking a hard drive, selecting Properties, clicking the Tools tab, and selecting the Check now button in the Error-checking section.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use appropriate Microsoft command line tools.

References:

MS-DOS chkdsk command help, <http://www.computerhope.com/chkdskh.htm>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.4 Given a scenario, use appropriate Microsoft command line tools

Question #92 of 99

Question ID: 1202778

A user wants to be able to restore his system files on his Windows 7 computer to an earlier point in time. He asks that you ensure that a restore point is created every day at the same time. Which tool should you use to schedule the restore point creation?

- X **A)** Volume Shadow Copy Service
- ✓ **B)** Task Scheduler
- X **C)** System Restore
- X **D)** msconfig

Explanation

You should use Task Scheduler to schedule the restore point creation. Task Scheduler is an application that can be used to schedule tasks to run on a Windows computer.

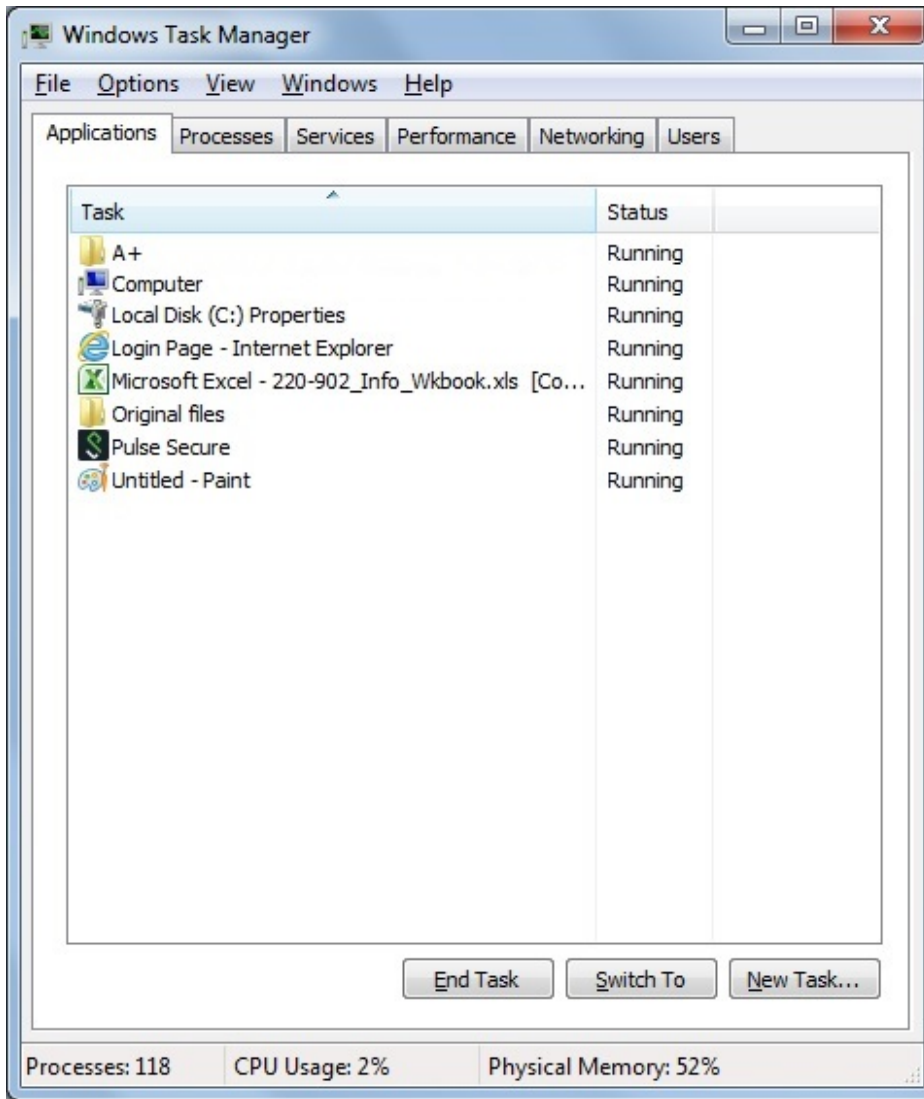
You cannot use System Restore to schedule the restore point creation. System Restore does not have the ability to schedule the creation of a system restore point.

You cannot use the Volume Shadow Copy Service to schedule the restore point creation. The Volume Shadow Copy Service provides a mechanism for creating consistent point-in-time copies of data, known as shadow copies.

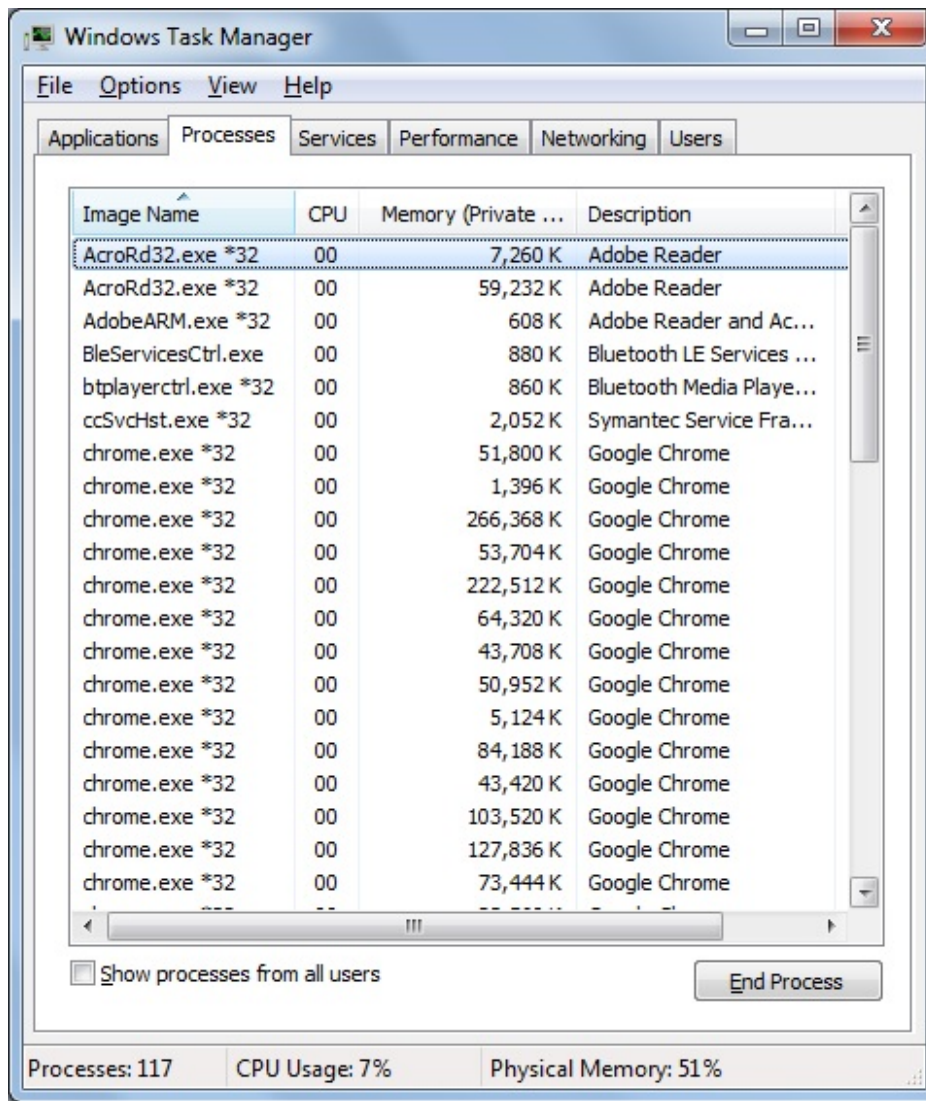
You cannot use the msconfig command-line tool to schedule the restore point creation. The msconfig command is a System Configuration utility that can be used to select startup types, boot options, and services.

Another application that you need to understand is Task Manager. You can access Task Manager using the Ctrl + Alt + Del key combination. Within Task Manager for Windows 7 there are six tabs: Applications, Processes, Services, Performance, Networking, and Users.

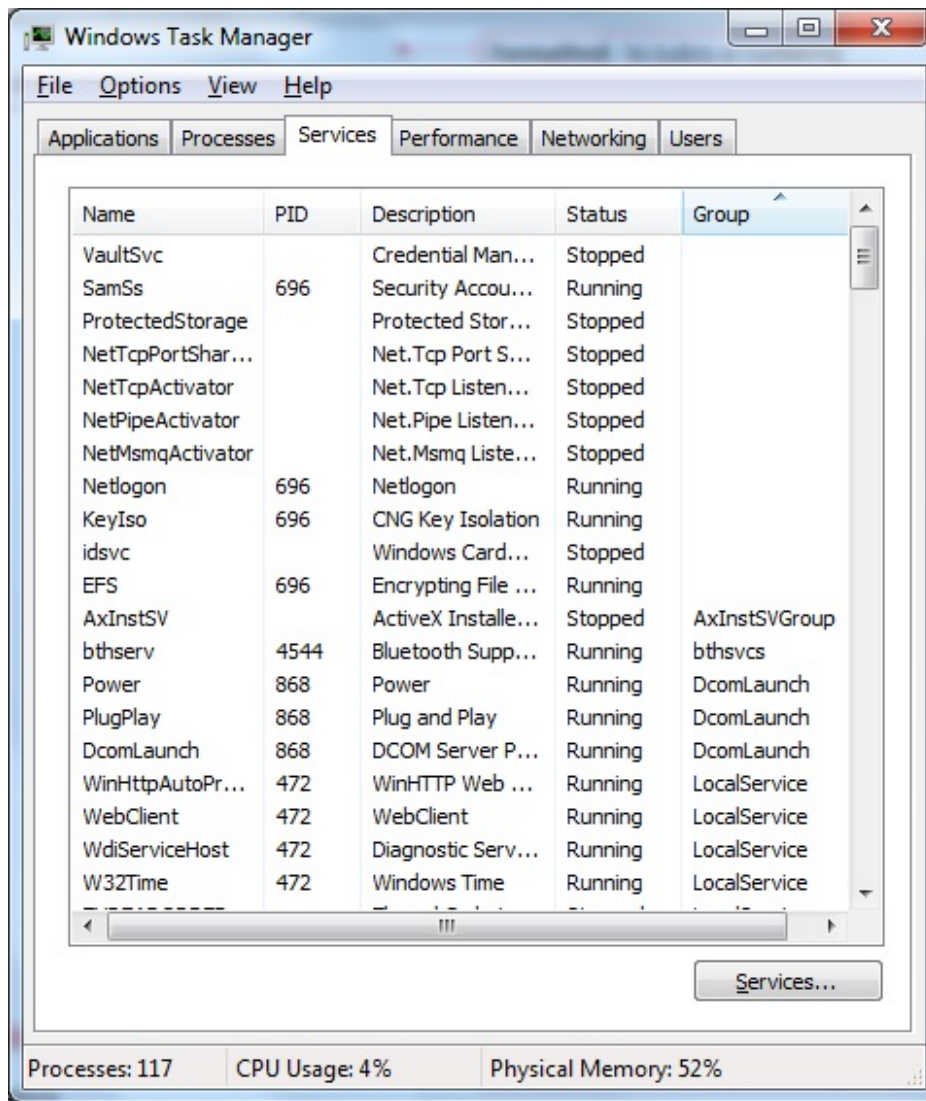
On the Applications tab, all open applications will be displayed. The Applications tab is shown in the following exhibit:



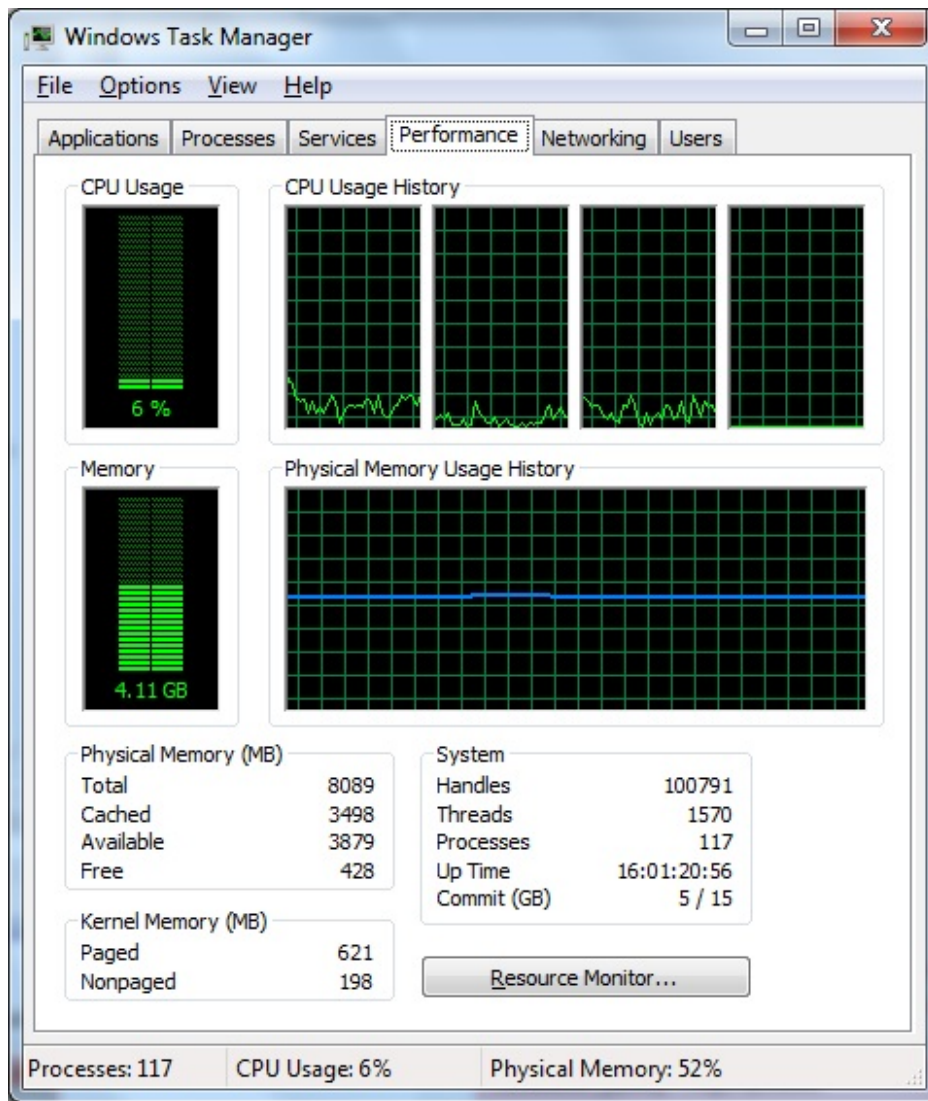
On the Processes tabs, all the running processes are shown. The Processes tab is shown in the following exhibit:



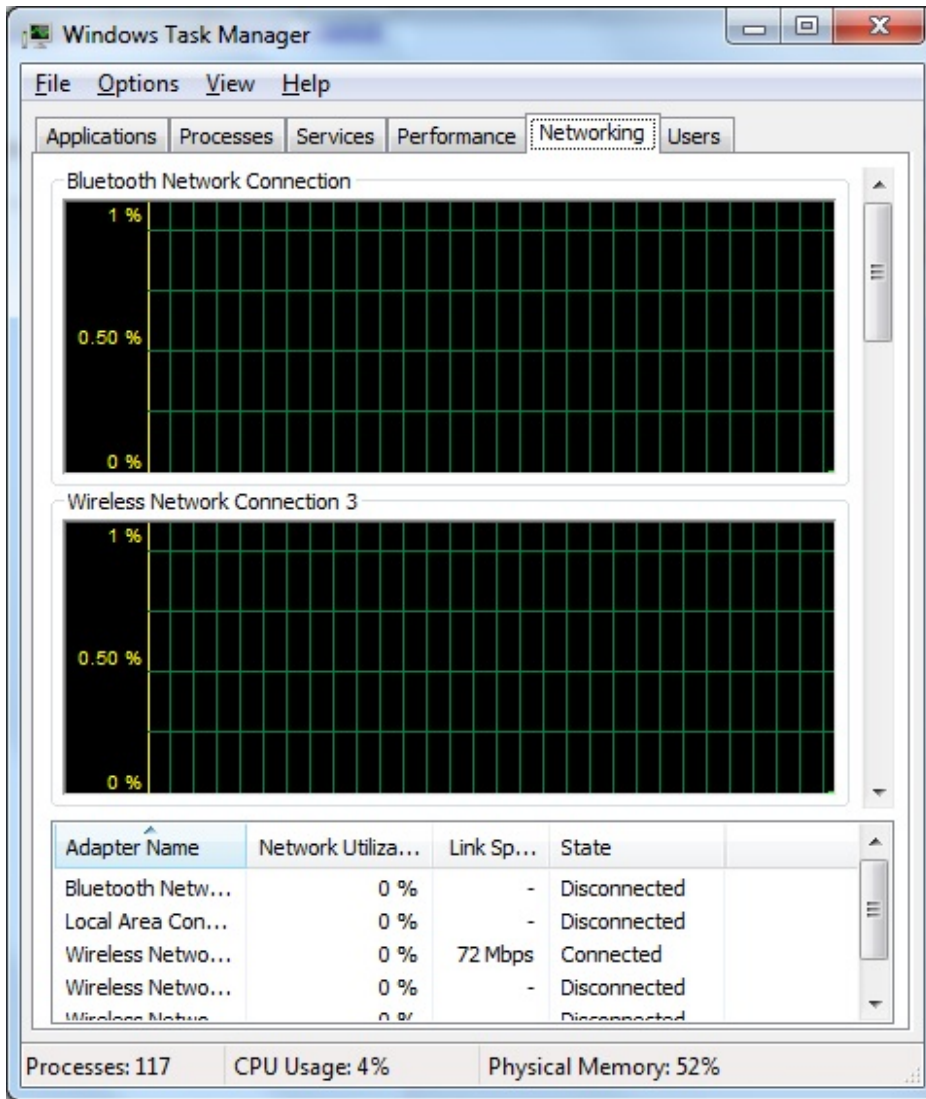
On the Services tab, all services are shown, including running and stopped services. The Services tab is shown in the following exhibit:



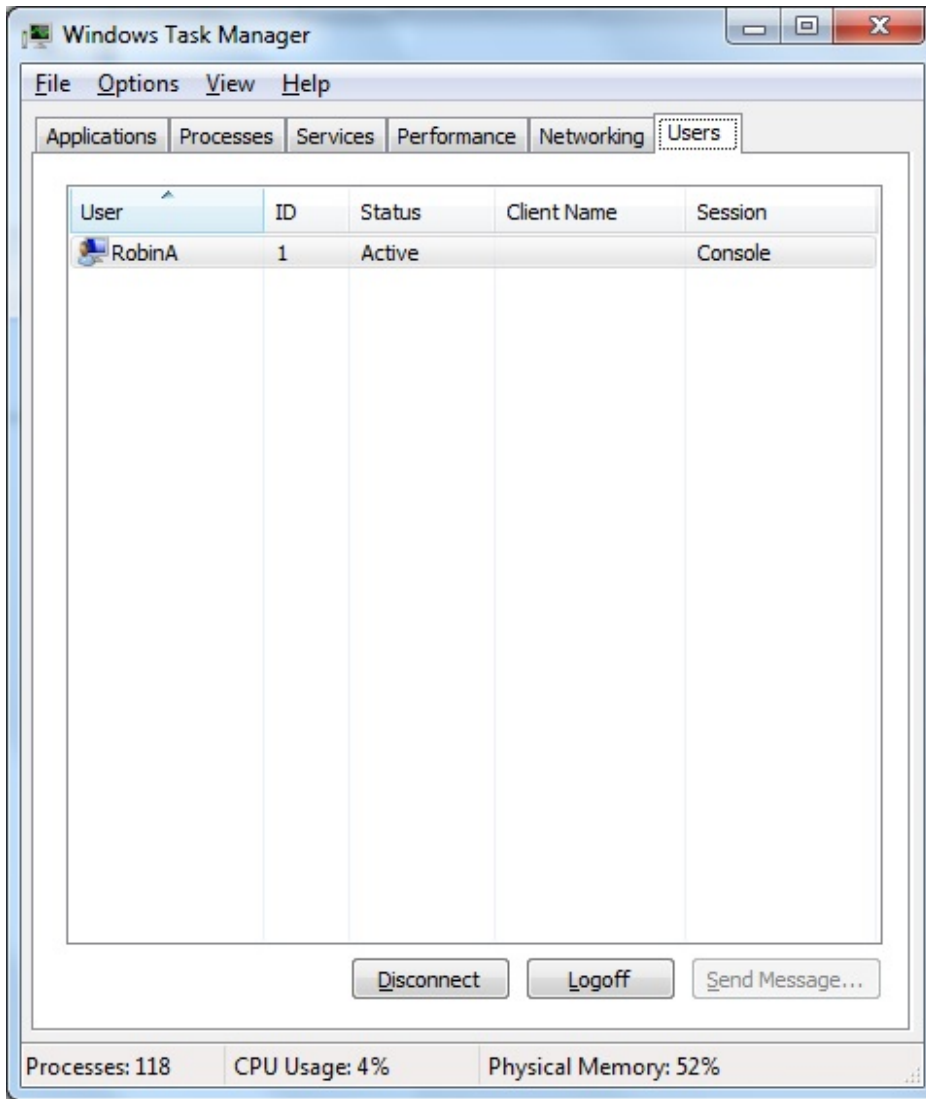
On the Performance tab, you can view CPU and memory usage. The Performance tab is shown in the following exhibit:



On the Networking tab, you can view networking statistics. The Networking tab is shown in the following exhibit:



On the Users tab, you can view the users who are logged in to the computer. You can forcefully end applications and processes using Task Manager. The Users tab is shown in the following exhibit:



For the A+ exam, you need to be familiar with the various Windows Administrative applications or tools.

Task Manager in Windows 8, Windows 8.1, and Windows 10 has seven slightly different tabs, as shown in the following exhibit:

Name	Status	72% CPU	21% Memory	44% Disk	0% Network
Apps (1)					
Task Manager		0.5%	9.5 MB	0 MB/s	0 Mbps
Background processes (11)					
Host Process for Windows Tasks		0%	1.9 MB	0 MB/s	0 Mbps
KMS Connection Broker		0%	1.0 MB	0 MB/s	0 Mbps
Microsoft Software Protection P...		0%	4.2 MB	0 MB/s	0 Mbps
Microsoft Windows Search Inde...		0%	6.0 MB	0 MB/s	0 Mbps
Microsoft® Volume Shadow Co...		0%	1.0 MB	0 MB/s	0 Mbps
Spooler SubSystem App		0%	1.6 MB	0 MB/s	0 Mbps
Store Broker		0%	4.8 MB	0 MB/s	0 Mbps
Windows License Monitoring Se...		0%	0.4 MB	0 MB/s	0 Mbps
WMI Provider Host		13.8%	4.7 MB	0.1 MB/s	0 Mbps
WMI Provider Host		0%	2.0 MB	0 MB/s	0 Mbps
WMI Reverse Performance Ada...		0.5%	1.0 MB	0.1 MB/s	0 Mbps

They are Processes, Performance, App history, Startup, Users, Details, and Services.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

How to Schedule Creating System Restore Point in Windows 7, <http://www.nirmaltv.com/2010/03/06/how-to-schedule-creating-system-restore-point-in-windows-7/>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #93 of 99

Question ID: 1176329

Which of the following statements regarding Android phones is INCORRECT?

- ✓ **A)** The Android GPS requires the help of cell towers to obtain a location.
- X **B)** The Android GPS will use battery life.

- X **C)** Android Apps can use cell towers, WiFi hot spots, or satellites to obtain a location.
- X **D)** The Android GPS needs a view of the sky.

Explanation

The Android GPS does NOT require the help of cell towers to obtain a location. The Android GPS uses satellites to obtain a location. Information from cell towers and WiFi hotspots can also help the Android GPS to determine a location, but is not required.

All of the other statements are correct. The Android GPS needs a view of the sky and will use battery life. Android Apps can use cell towers, WiFi hot spots, or satellites to obtain a location.

iPhones and most Android phones contain GPS chips. Geotracking is the process whereby the device records the location of the device and sends the information to a central server. Geotracking is controversial because the United States Department of Homeland Security retains the rights to access this information when the federal government deems necessary.

Objective:

Operating Systems

Sub-Objective:

Compare and contrast common operating system types and their purposes.

References:

The Android GPS, <http://www.backcountrynavigator.com/android-gps/>

How the iPhone knows where you are, <http://www.macworld.com/article/1159528/smartphones/how-iphone-location-works.html>

Location awareness and my phone, <http://www.windowsphone.com/en-us/how-to/wp7/web/location-awareness-and-my-phone>

CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002, Chapter 6: Operating Systems, 1.1 Compare and contrast common operating system types and their purposes

Question #94 of 99

Question ID: 1176343

You are installing an operating system on a drive that appears to have sector issues. Which formatting option should you use?

- ✓ **A)** Full Format
- X **B)** ExFAT
- X **C)** Quick Format

X **D)** NTFS

Explanation

When you are installing an operating system on a drive that appears to have sector issues, you should use full format. A full format will take much longer than a quick format because a full format checks for bad sectors. It is critically important that the boot drive be properly formatted with the correct partitions and format.

Quick format is not correct because it does not check for bad sectors.

ExFAT and NTFS are not correct because they describe the file system to be used, not the formatting process itself.

For the A+ exam, you need to understand the following file system and formatting terms:

- FAT - File Allocation Table (FAT) is the legacy file system for Windows. This file system supports a maximum partition size of 2 GB.
- FAT32 - This file system was introduced with Windows 95 Service Release 2 and allows a maximum partition size of 2 terabytes (TB).
- NTFS - This file system was introduced with Windows NT. It provides support for file compression, file encryption, and file/folder security.
- CDFS - This file system is used on CD-ROM drives.
- Quick format versus full format - In choosing between these two types of formats, keep in mind that a quick format does NOT check for bad sectors. A full format will take much longer than a quick format because a full format checks for bad sectors.
- ExFAT - This file system is the successor to FAT32. It allowed for larger files, particularly media files, and compatibility with flash media.
- NFS - This file system is used primarily in Linux systems. It allows users to access remote files the same way they would access local files.
- EXT3 - A common Linux file system. It allows for journaling, which protects against file system corruption in the event of a crash. It supports file sizes to 2 TB.
- EXT4 - A newer version of EXT3. It supports file sizes to 6 TB. The maximum file system size is 1 exabyte.
- HFS - Hierarchical File System (HFS) is the file system supported by Mac OSx 8.0 and later. The latest version is HFS+.
- Swap partition - A special partition created to store the paging file. It is used as virtual memory.

Objective:

Operating Systems

Sub-Objective:

Summarize general OS installation considerations and upgrade methods.

References:

What's the difference between quick format and full format?, <http://www.tomshardware.com/answers/id-2324236/difference-quick-format-full-format.html>

NFS, <http://www.oreilly.com/openbook/linag2/book/ch14.html>

EXT3, EXT4, <http://www.thegeekstuff.com/2011/05/ext2-ext3-ext4/>

Understanding NTFS Permissions, <http://www.windowsecurity.com/articles/Understanding-Windows-NTFS-Permissions.html>

NTFS Permissions, <http://www.ntfs.com/ntfs-permissions.htm>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.3
Summarize general OS installation considerations and upgrade methods

Question #95 of 99

Question ID: 1202780

You find a solution to a problem that directs you to edit a value in HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Policies. What system tool will allow you to accomplish this?

- ✓ **A) REGEDIT**
- X **B) MSINFO32**
- X **C) MMC**
- X **D) MSTSC EXPLORER**

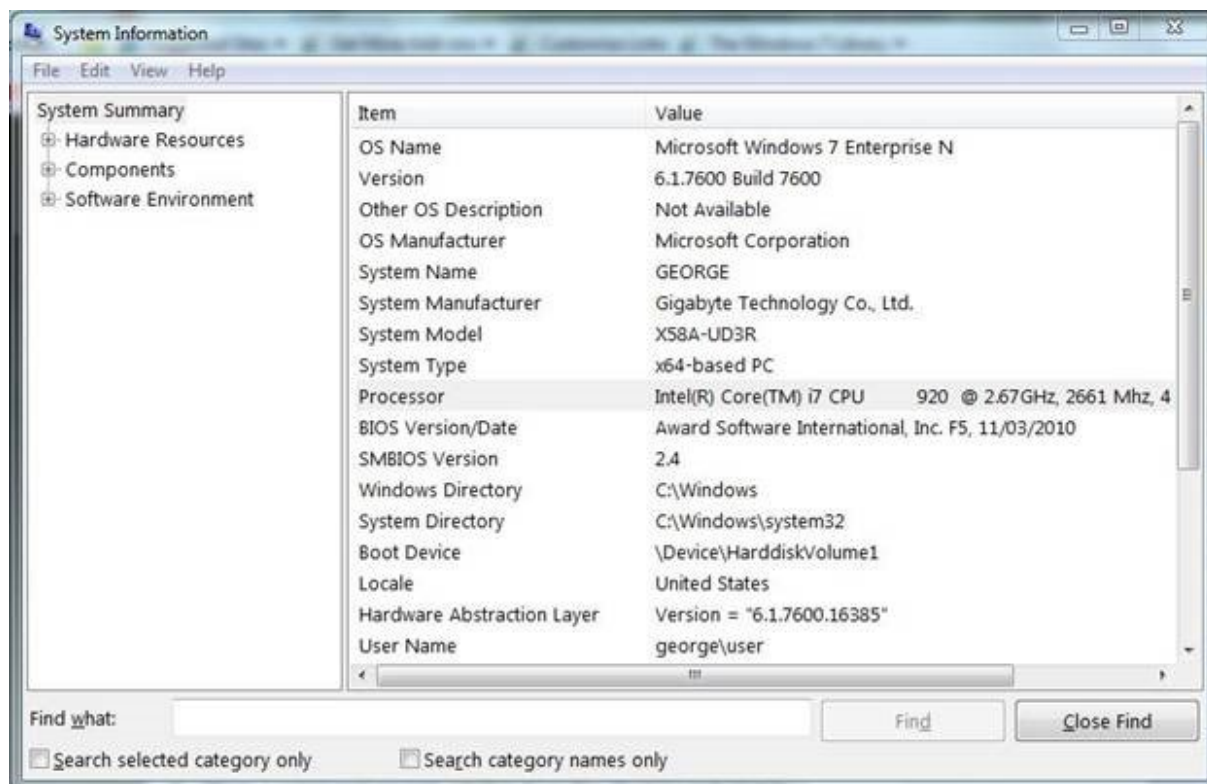
Explanation

To edit a value in HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Policies, you would use REGEDIT. REGEDIT can also be accessed by opening the command prompt window and typing regedit. All HKEY values are registry entries and can be edited with the system tool REGEDIT. Use extreme caution when editing registry entries, as changes cannot be undone. Always save a copy of the current registry settings before editing them.

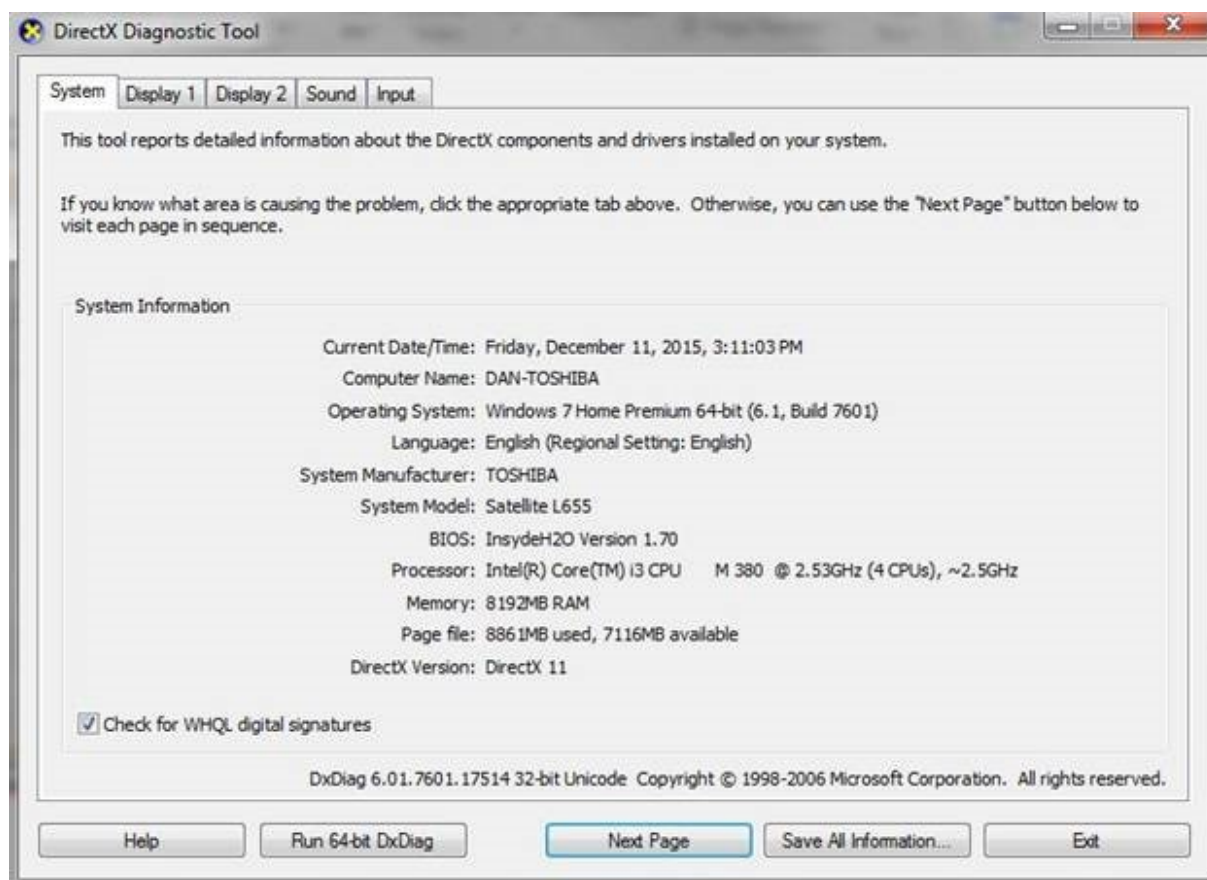
MMC is the Microsoft Management Console and allows for the customization of administrative tasks. Collections within the MMC are called consoles. A snap-in is the basic component of a console.

MSTSC EXPLORER is not a valid command. MSTSC and EXPLORER are separate commands that cannot be combined. MSTSC launches Remote Desktop Connection from a command prompt. EXPLORER will allow you to launch Windows Explorer. NOTEPAD will allow you to launch Notepad, which is a generic text editor.

MSINFO32 gives users a detailed list of hardware, software, resources, and Internet settings, as shown in the following exhibit:



Another tool that you need to understand for the A+ exam is DXDIAG. DXDIAG is a diagnostic tool for the DirectX components and drivers and is shown in the following exhibit:



Typing command at the Search box will launch the Command Prompt in Administrative mode, which is indicated by the title of Administrator: Command Prompt title in the resulting dialog box. Many of the commands in this scenario require administrative privileges to run properly.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft operating system features and tools.

References:

How To Open Registry Editor <http://pcsupport.about.com/od/registry/ht/open-registry-editor.htm>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.5 Given a scenario, use Microsoft operating system features and tools

Question #96 of 99

Question ID: 1176386

Management has requested that BitLocker To Go be implemented on all Windows 7 computers. Which hardware is required to implement this technology?

- X **A)** an optical DVD/CD drive
- X **B)** a network interface card (NIC)
- X **C)** DirectX 10.0
- ✓ **D)** a USB flash drive

Explanation

To implement BitLocker To Go on all Windows 7 computers, you need a USB Flash drive. BitLocker To Go is a new technology in Windows 7 that allows you to encrypt the contents of USB Flash drives.

None of the other hardware is required to implement BitLocker To Go.

All 32-bit versions of Windows 7 have the following minimum requirements:

- 1 Gigahertz (GHz) processor
- 1 GB RAM
- 16 GB available hard drive space
- DirectX 9 graphics card with WDDM 1.0 or higher driver
- All 64-bit versions of Windows 7 have the following minimum requirements:
 - 1 GHz processor
 - 2 GB RAM
 - 20 GB available hard drive space
 - DirectX 9 graphics card with WDDM 1.0 or higher driver

Some of the following features in Windows 7 have additional minimum hardware requirements:

- Internet access
- Video playback may require additional memory and graphics card hardware, depending on resolution
- DirectX 10.0 or higher for optimal operation of some applications
- TV tuner and additional hardware for some Windows Media Center functions
- Homegroup requires network and Windows 7 computers
- A compatible optical drive for DVD/CD authoring
- Trusted Platform Module (TPM) 1.2 for BitLocker
- USB flash drive for BitLocker To Go
- Additional 1 GB RAM and 15 GB available hard drive space for Windows XP Mode

Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft Windows Control Panel utilities.

References:

Windows 7 System Requirements, <http://www.microsoft.com/windows/windows-7/get/system-requirements.aspx>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.6 Given a scenario, use Microsoft Windows Control Panel utilities

Question #97 of 99

Question ID: 1202792

You need to configure your Windows 7 computer so that it automatically connects to the Research share on a server named Srv1 each time your computer boots. You want this to be configured as the R drive.

You click Start and Computer. You select the Map Network Drive option. The Map Network Drive dialog box is displayed. What should you do?

- ✓ **A)** In the Drive field, select R. In the Folder field, enter \\Srv1\Research. Select the Reconnect at Logon option. Click Finish.
- X **B)** In the Drive field, select R. In the Folder field, enter \\Research\Srv1. Clear the Reconnect at Logon option. Click Finish.
- X **C)** In the Drive field, select R. In the Folder field, enter \\Srv1\Research. Clear the Reconnect at Logon option. Click Finish.
- X **D)** In the Drive field, select R. In the Folder field, enter \\Research\Srv1. Select the Reconnect at Logon option. Click Finish.

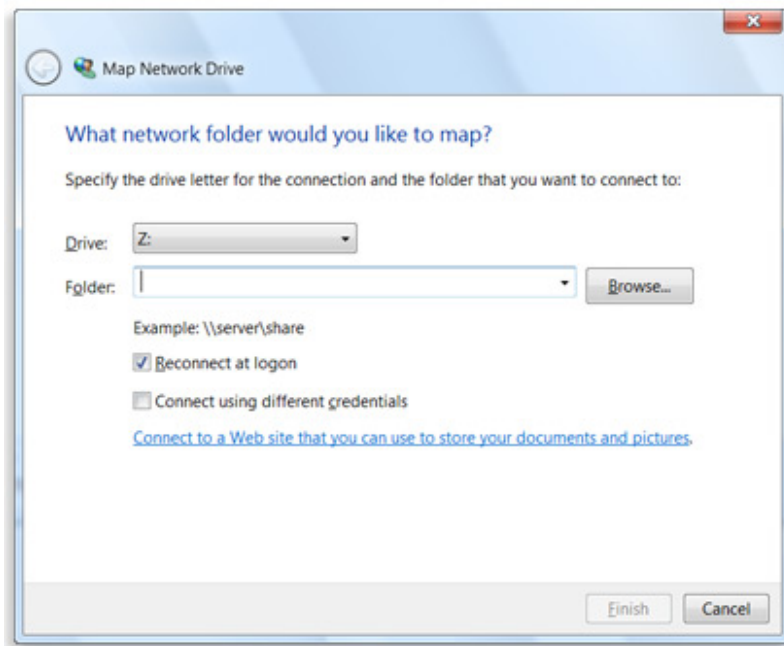
Explanation

You should select R in the Drive field, enter \\Srv1\Research in the Folder field, select the Reconnect at Logon option, and click Finish.

To map a drive in Windows 7, you should first select the Tools option and then the Map network drive option in Explorer, as shown in the following exhibit:

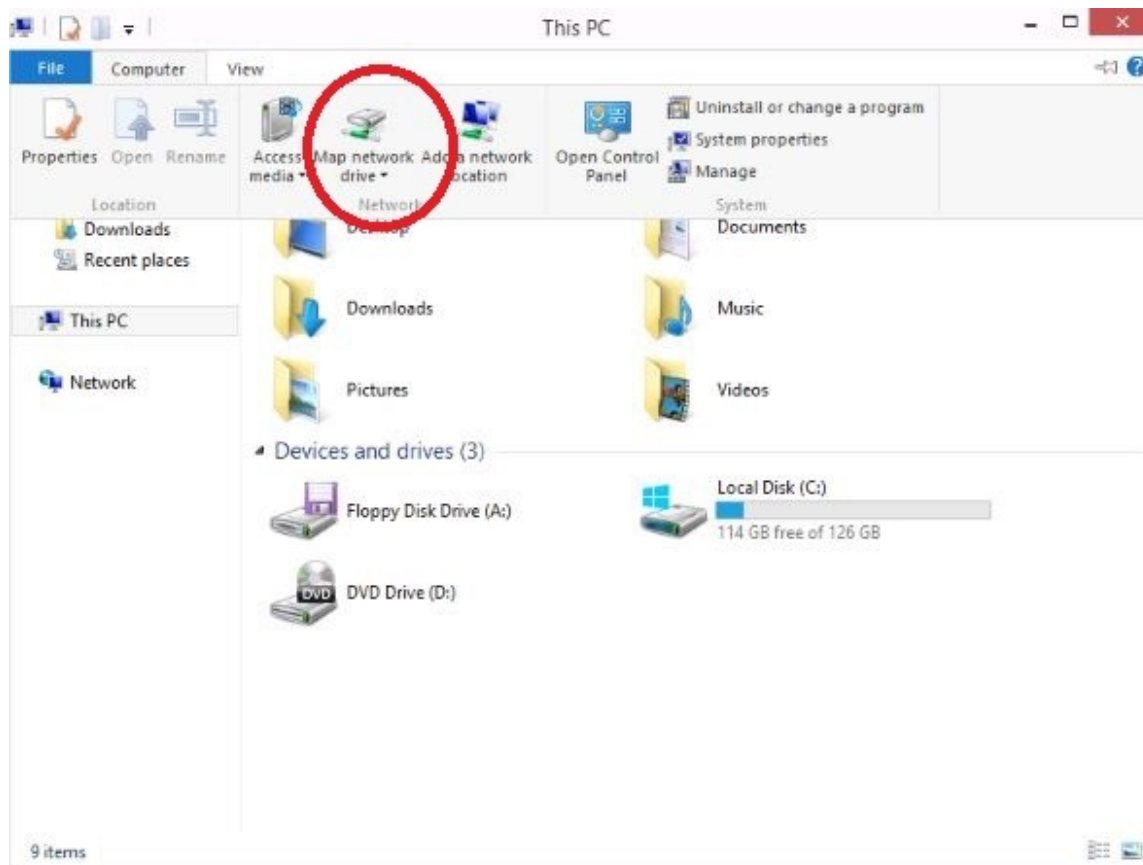


The Map Network Drive dialog box will then be displayed as shown in the following exhibit:

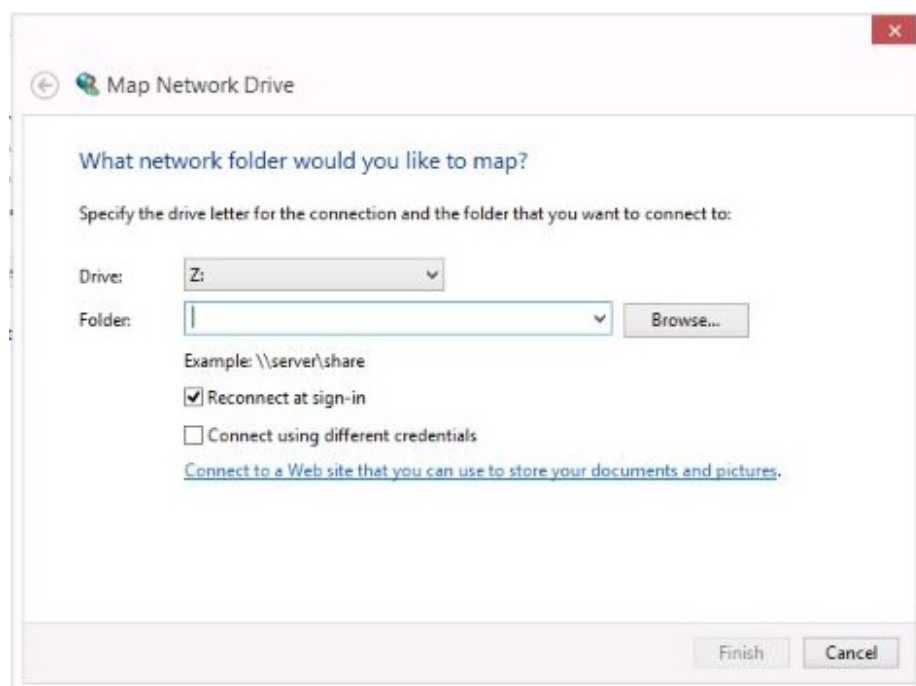


You would select the drive letter that you want to use and then enter the appropriate mapping or use the Browse feature to locate the folder. The Reconnect at logon option allows you to connect to the same drive and assign the same drive letter the next time you log on to the network. The Connect using different credentials option allows you to use a different username/password combination, providing that user account is on that computer.

The Windows 8 drive mapping process is slightly different. From the Computer dialog box, you would select the Map network drive option as shown in the following exhibit:



This will then display the following Map Network Drive dialog box:



You can select from the available drive letters, then browse for the folder or file to which you wish to connect. Click Finish at the end.

Alternatively, you could enter the net use r: /persistent:yes \\Srv1\Research command. This net use command will work in Windows 7 and above. The net use command syntax is:

```
net use drive_letter: \\computer_name\share_name //Persistent:Yes
```


Here are the possible parameters to use with the net use command:

- drive_letter - lists the drive letter that you want to use.
- \\computer_name\share_name - lists the computer on which the share exists and its share name.
- //Persistent:Yes - allows the computer to reconnect to the share with each reboot. If set to No, the mapping will be lost when the computer reboots.
- /User:domain_name\user_name - lists the credentials that should be used when mapping the drive.

You should not clear the Reconnect at Logon option. This would prevent your computer from automatically connecting to the drive at boot time.

You should not map the drive to the \\Research\Srv1 share. The proper syntax is \\server_name\share_name.

Objective:

Operating Systems

Sub-Objective:

Given a scenario, configure Microsoft Windows networking on a client/desktop.

References:

How to Map a Network Drive using Windows 7, Windows Vista, and Windows Server 2008,

<http://www.groovypost.com/howto/microsoft/vista/map-a-network-drive-using-windows-vista-or-windows-server-2008/>

Map a network drive, <https://support.microsoft.com/en-us/help/4026635/windows-map-a-network-drive>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

Question #98 of 99

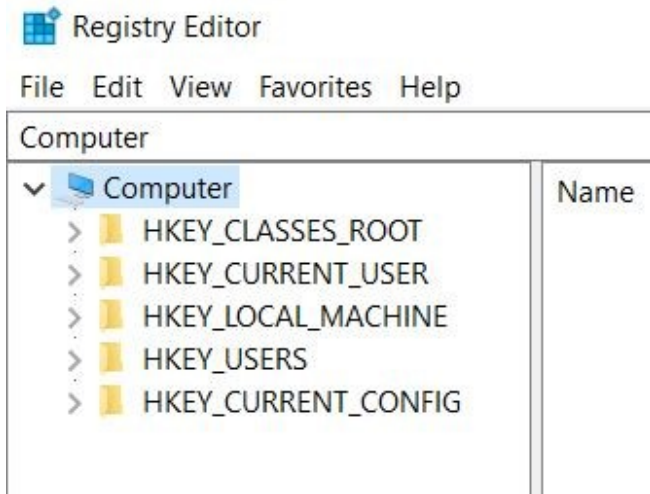
Question ID: 1202748

Which of the following workstation operating systems uses a master database to store all user, system, and application settings?

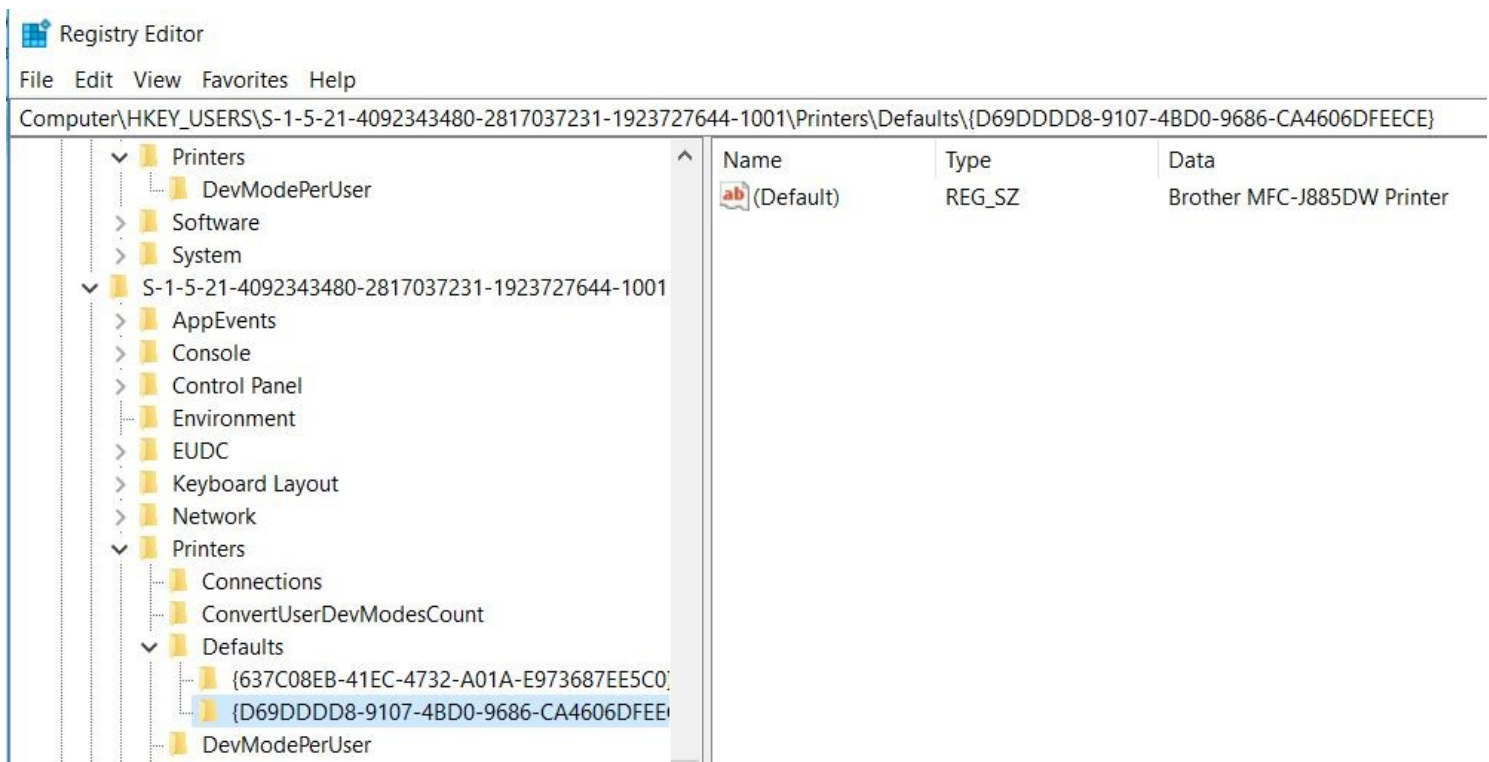
- X **A)** Apple Macintosh OS
- X **B)** Linux
- ✓ **C)** Microsoft Windows
- X **D)** FreeBSD

Explanation

Microsoft Windows uses a master database to store all user, system, and application settings. This database, called the registry, is organized into five hierarchical sections called hives.



By drilling down into the hives, you can find individual system settings, such as the default printer for a particular user.



Apple Macintosh OS stores the application settings in .plist files. The .plist file provides the configuration settings and particular properties for an application.

Linux stores configuration settings in initialization files, collectively called INI files. Initialization files may have the .ini, .cnf, .config, or .txt extension. The common practice is to store the system-level configuration files in the /etc directory, while user-level configurations are stored in the user's home directory.

FreeBSD, which, like Linux, has its roots in Unix, also uses the /etc and /usr directories to store individual configuration files.

In addition, vendor-specific limitations, such as end-of-life for an operating system and update limitations, need to be considered before choosing an OS.

Objective:

Operating Systems

Sub-Objective:

Compare and contrast common operating system types and their purposes.

References:

Linux vs MAC vs Windows, <https://www.educba.com/linux-vs-mac-vs-windows/>

Question #99 of 99

Question ID: 1202783

A user has connected a second monitor to his Windows 7 Ultimate computer. The new monitor is detected. However, the dual-monitor configuration is not configured as he wants it. What should the user do to change the dual-monitor configuration of the monitors?

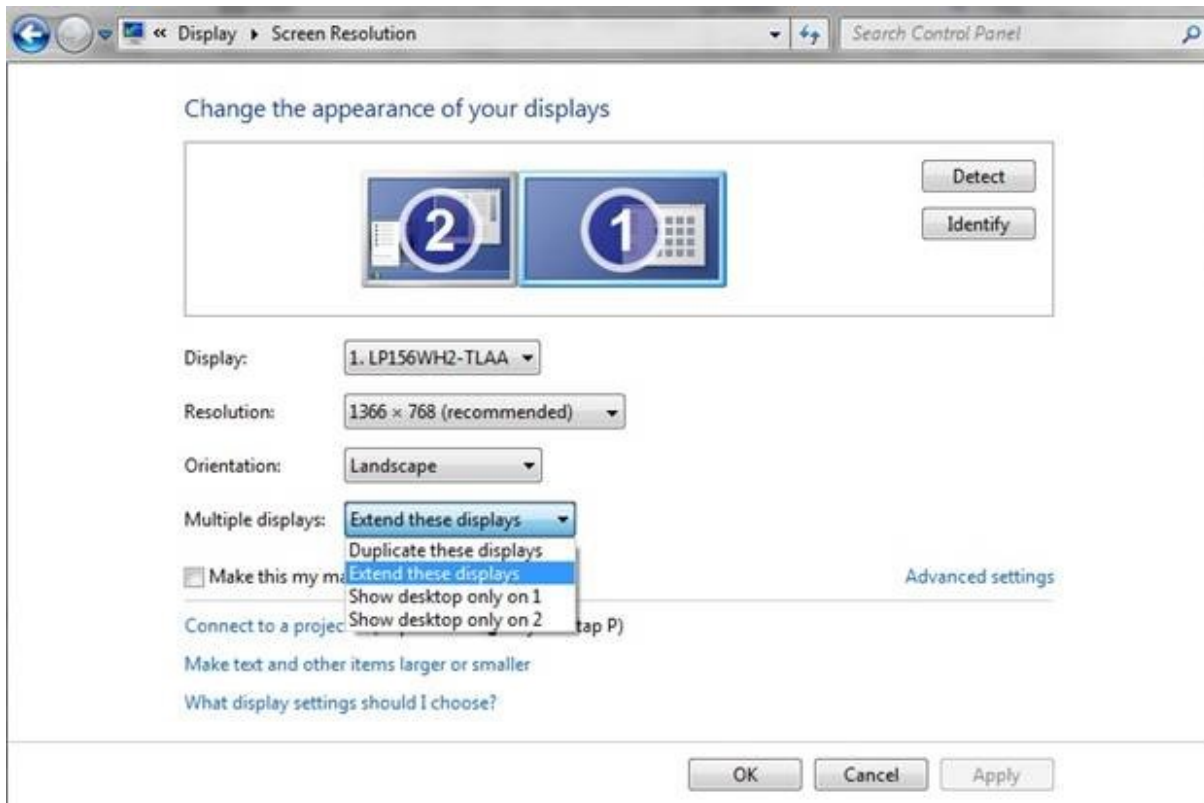
- X **A)** Navigate to Control Panel\Appearance and Personalization\Display\Adjust Resolution\Advanced Settings.
- ✓ **B)** Navigate to Control Panel\Appearance and Personalization\Display\Adjust Resolution.
- X **C)** Right-click the desktop and select Personalize.
- X **D)** Right-click the desktop and select Gadgets.

Explanation

The user should navigate to Control Panel\Appearance and Personalization\Display\Adjust Resolution. This will allow him to select the second monitor and change its Multiple Displays setting. In a dual-monitor configuration, you have four Multiple Displays settings:

- Duplicate these displays
- Extend these displays
- Show desktop only on 1
- Show desktop only on 2

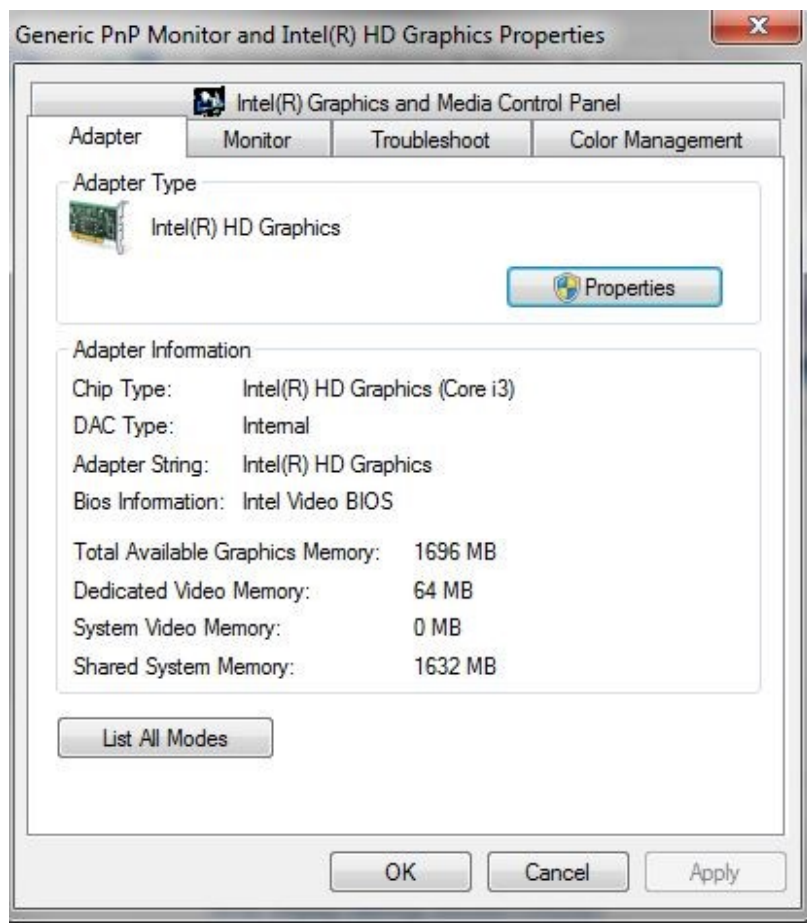
The screen to change the Multiple Displays settings is shown in the following exhibit:



If you click on Connect to a Projector, you will have the following options:



The user should not navigate to Control Panel\Appearance and Personalization\Display\Adjust Resolution\Advanced Settings. This is the location where the user would add a second monitor if it was not automatically detected by the operating system. The Advanced Settings option will display the graphics card's Properties dialog box as shown in the following exhibit:

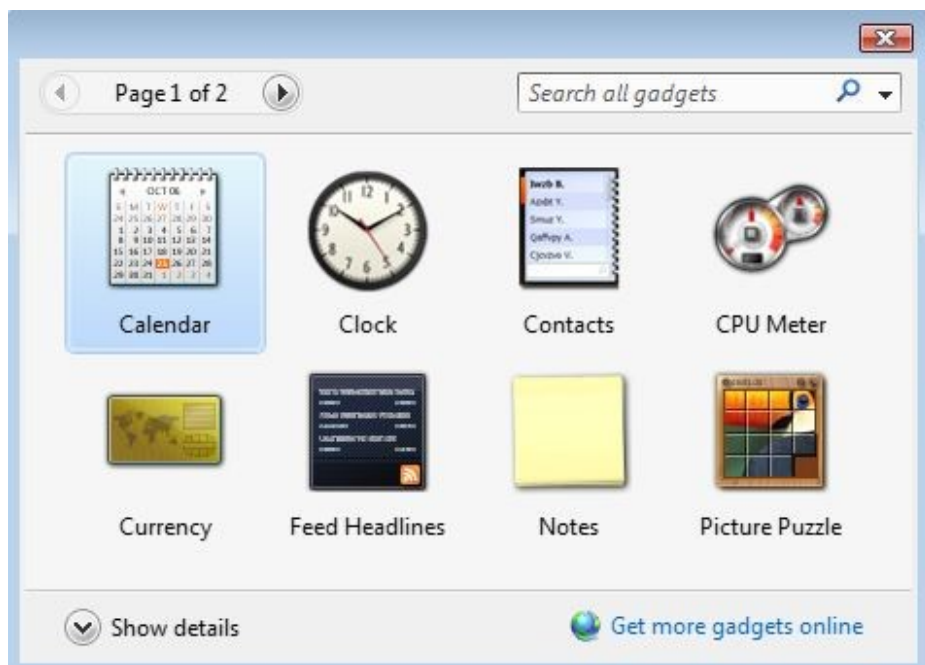


The Adapter tab allows you to select a resolution from all those available. The resolution, also called color depth, is referred to in pixels, as in 640x460, 800x600, and 1024x768. The Monitor tab allows you to select the screen refresh rate and the 16/32 bit color settings. The Troubleshoot tab allows you to change the driver settings if the driver allows that. The Color Management tab contains advanced customization settings.

The user should not right-click the desktop and select Personalize. This is how the user personalizes the desktop wallpaper and other settings. This would display the Change the visuals and sounds on your computer screen, as shown in the following exhibit:



The user should not right-click the desktop and select Gadgets. This is how to enable gadgets on the desktop, as shown in the following exhibit:



Objective:

Operating Systems

Sub-Objective:

Given a scenario, use Microsoft Windows Control Panel utilities.

References:

Work and play better with multiple monitors, <https://www.royaldiscount.com/blog/work-play-better-multiple-monitors/>

[CompTIA A+ Complete Review Guide: Exam 220-1001 and Exam 220-1002](#), Chapter 6: Operating Systems, 1.6 Given a scenario, use Microsoft Windows Control Panel utilities