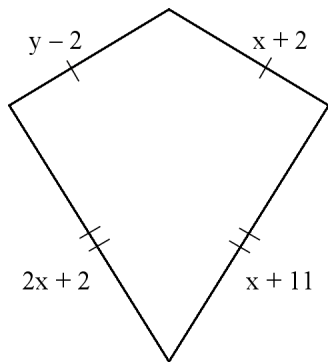


Geometry **2nd Semester Exam Review 2012**

Multiple Choice

Identify the choice that best completes the statement or answers the question.

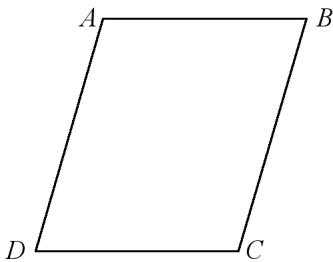
- _____ 1. Find the values of the variables and the lengths of the sides of this kite.



- | | |
|---------------------------|----------------------------|
| a. $x = 9, y = 13; 7, 15$ | c. $x = 9, y = 13; 11, 20$ |
| b. $x = 13, y = 9; 7, 15$ | d. $x = 13, y = 9; 11, 11$ |

- _____ 2. Which statement is true?
- All quadrilaterals are rectangles.
 - All quadrilaterals are squares.
 - All rectangles are quadrilaterals.
 - All quadrilaterals are parallelograms.

- _____ 3. $ABCD$ is a parallelogram. If $m\angle CDA = 66$, then $m\angle BCD = \underline{\quad?}$. The diagram is not to scale.

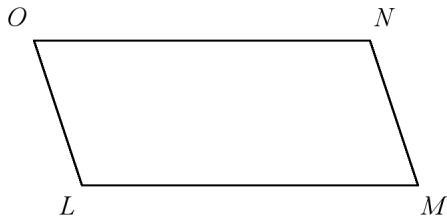


- | | | | |
|-------|--------|--------|--------|
| a. 66 | b. 124 | c. 114 | d. 132 |
|-------|--------|--------|--------|

Name: _____

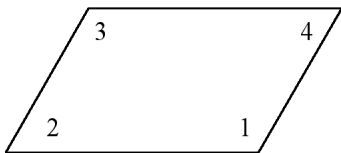
ID: A

_____ 4. $LMNO$ is a parallelogram. If $NM = x + 15$ and $OL = 3x + 5$ find the value of x and then find NM and OL .



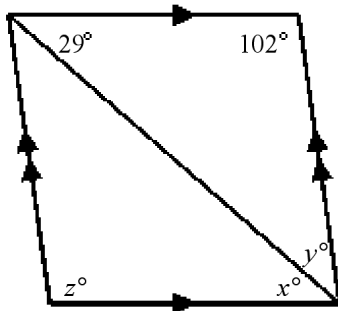
- a. $x = 7, NM = 20, OL = 22$
- b. $x = 5, NM = 20, OL = 20$
- c. $x = 7, NM = 22, OL = 22$
- d. $x = 5, NM = 22, OL = 20$

_____ 5. For the parallelogram, if $m\angle 2 = 5x - 28$ and $m\angle 4 = 3x - 10$, find $m\angle 3$. The diagram is not to scale.



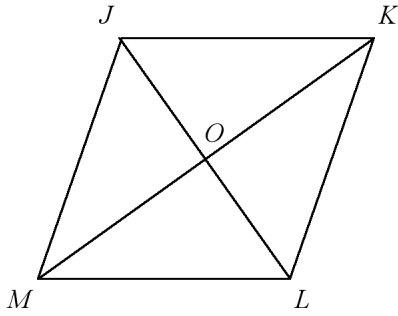
- a. 9
- b. 17
- c. 173
- d. 163

_____ 6. Find the values of the variables in the parallelogram. The diagram is not to scale.



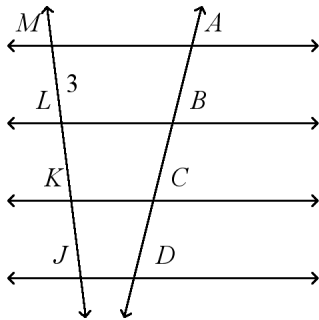
- a. $x = 49, y = 29, z = 102$
- b. $x = 29, y = 49, z = 131$
- c. $x = 49, y = 49, z = 131$
- d. $x = 29, y = 49, z = 102$

_____ 7. In the parallelogram, $m\angle KLO = 68$ and $m\angle MLO = 61$. Find $\angle KJM$. The diagram is not to scale.



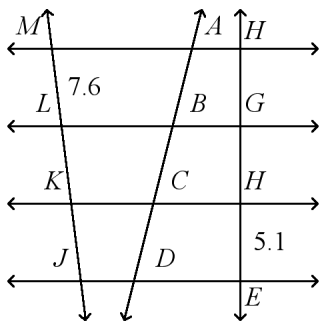
- a. 119 b. 61 c. 129 d. 68

_____ 8. In the figure, the horizontal lines are parallel and $AB = BC = CD$. Find JM . The diagram is not to scale.



- a. 9 b. 12 c. 6 d. 3

_____ 9. In the figure, the horizontal lines are parallel and $AB = BC = CD$. Find KL and FG . The diagram is not to scale.

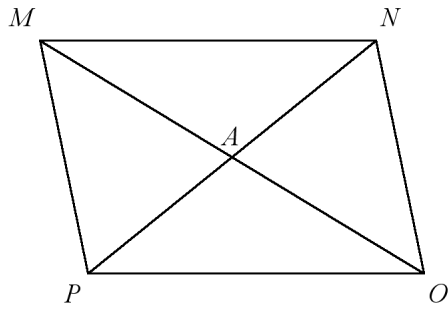


- a. $KL = 7.6, FG = 7.6$ c. $KL = 5.1, FG = 5.1$
 b. $KL = 5.1, FG = 7.6$ d. $KL = 7.6, FG = 5.1$

Name: _____

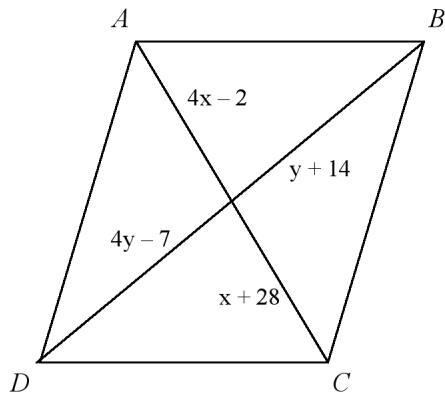
ID: A

_____ 10. Find AM in the parallelogram if $PN=9$ and $AO=4$. The diagram is not to scale.



- a. 8 b. 4 c. 9 d. 4.5

_____ 11. Find values of x and y for which $ABCD$ must be a parallelogram. The diagram is not to scale.

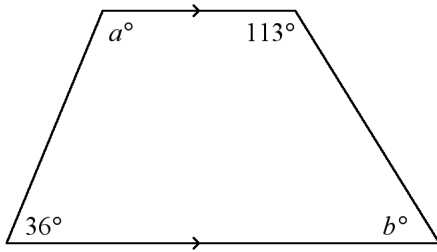


- a. $x = 10, y = 38$ b. $x = 10, y = 21$ c. $x = 10, y = 7$ d. $x = 7, y = 10$

Name: _____

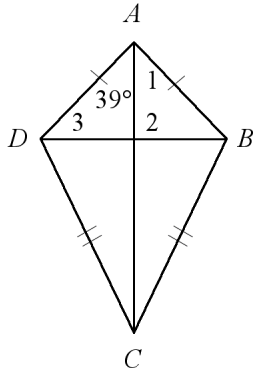
ID: A

_____ 15. Find the values of a and b . The diagram is not to scale.



- a. $a = 144, b = 67$
- b. $a = 144, b = 36$
- c. $a = 113, b = 67$
- d. $a = 113, b = 36$

_____ 16. Find $m\angle 1$ and $m\angle 3$ in the kite. The diagram is not to scale.



- a. 51, 51
- b. 39, 39
- c. 39, 51
- d. 51, 39

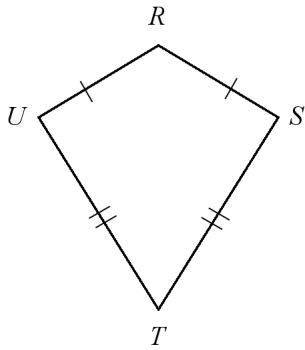
_____ 17. $\angle J$ and $\angle M$ are base angles of isosceles trapezoid $JKLM$. If $m\angle J = 20x + 9$, and $m\angle M = 14x + 15$, find $m\angle K$.

- a. 151
- b. 1
- c. 29
- d. 75.5

Name: _____

ID: A

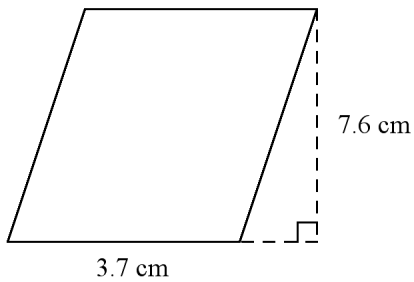
_____ 18. $m\angle R = 130$ and $m\angle S = 80$. Find $m\angle T$. The diagram is not to scale.



- a. 65 b. 70 c. 35 d. 80

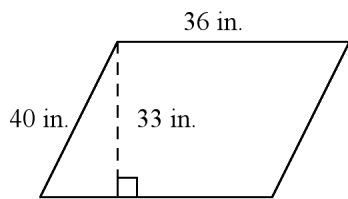
Find the area. The figure is not drawn to scale.

_____ 19.



- a. 28.12 cm^2 b. 3.9 cm^2 c. 11.3 cm^2 d. 56.24 cm^2

_____ 20.

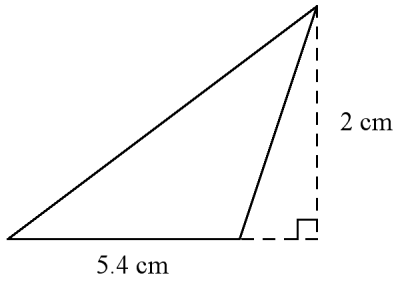


- a. 1188 in.^2 b. 69 in.^2 c. 138 in.^2 d. 1440 in.^2

Name: _____

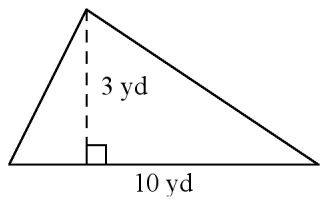
ID: A

_____ 21.



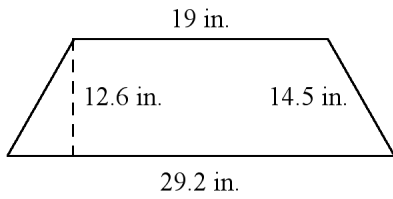
- a. 10.8 cm^2 b. 5.4 cm^2 c. 21.6 cm^2 d. 7.4 cm^2

_____ 22.



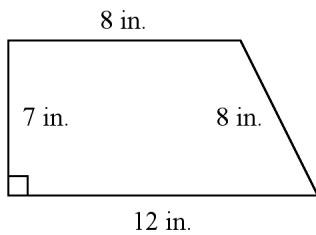
- a. 30 yd^2 b. 6.5 yd^2 c. 13 yd^2 d. 15 yd^2

_____ 23.



- a. 607.32 in.^2 b. 36.7 in.^2 c. 303.66 in.^2 d. 77.2 in.^2

_____ 24.



- Not drawn to scale
a. 77.2 in.^2 b. 80 in.^2 c. 75 in.^2 d. 70 in.^2

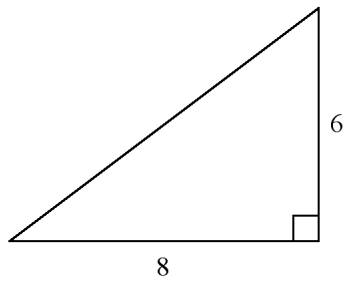
Name: _____

ID: A

- _____ 25. The area of a parallelogram is 420 cm^2 and the height is 35 cm. Find the corresponding base.
a. 385 cm b. 455 cm c. $14,700 \text{ cm}^2$ d. 12 cm

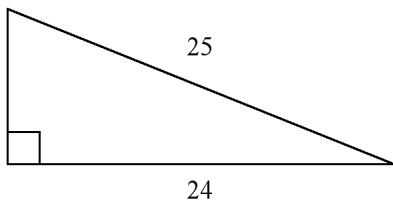
Find the length of the missing side. The triangle is not drawn to scale.

_____ 26.



- a. 28 b. 100 c. 10 d. 48

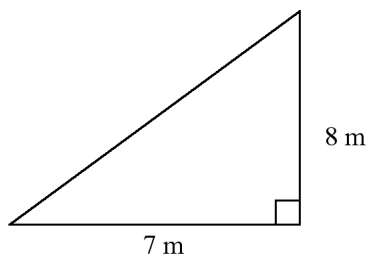
_____ 27.



- a. 35 b. 49 c. 7 d. 2

Find the length of the missing side. Leave your answer in simplest radical form.

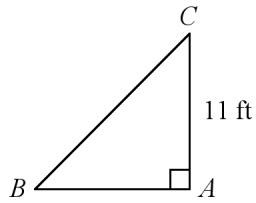
_____ 28.



Not drawn to scale

- a. $\sqrt{17} \text{ m}$ b. 113 m c. $\sqrt{113} \text{ m}$ d. $\sqrt{71} \text{ m}$

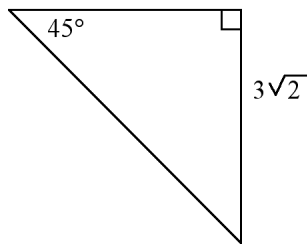
- _____ 29. In triangle ABC , $\angle A$ is a right angle and $m\angle B = 45^\circ$. Find BC . If your answer is not an integer, leave it in simplest radical form.



Not drawn to scale

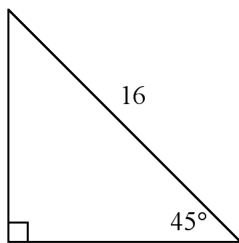
- a. 22 ft b. $22\sqrt{2}$ ft c. 11 ft d. $11\sqrt{2}$ ft

- _____ 30. Find the length of the hypotenuse.



- a. 12 b. 6 c. 5 d. 18

- _____ 31. Find the length of the leg. If your answer is not an integer, leave it in simplest radical form.

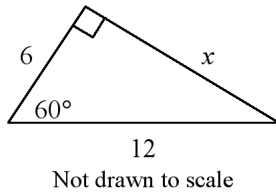


Not drawn to scale

- a. 128 b. $8\sqrt{2}$ c. 16 d. $2\sqrt{2}$

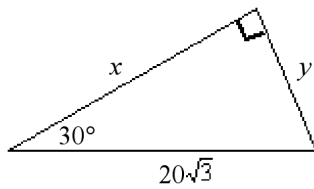
Find the value of the variable(s). If your answer is not an integer, leave it in simplest radical form.

_____ 32.



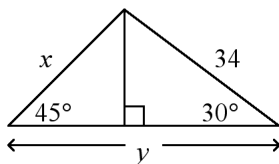
- a. 2 b. $12\sqrt{3}$ c. $\frac{1}{2}$ d. $6\sqrt{3}$

_____ 33.



- a. $x = 10\sqrt{3}, y = 30$ c. $x = 30\sqrt{3}, y = 10$
 b. $x = 10, y = 30\sqrt{3}$ d. $x = 30, y = 10\sqrt{3}$

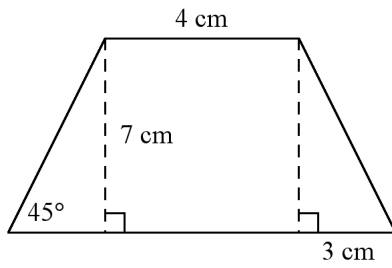
_____ 34. Find the value of x and y rounded to the nearest tenth.



- a. $x = 48.1, y = 46.4$ c. $x = 24.0, y = 139.3$
 b. $x = 48.1, y = 139.3$ d. $x = 24.0, y = 46.4$

Find the area of the trapezoid. Leave your answer in simplest radical form.

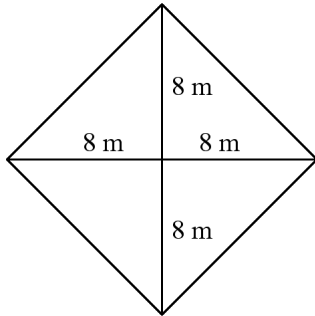
_____ 35.



Not drawn to scale

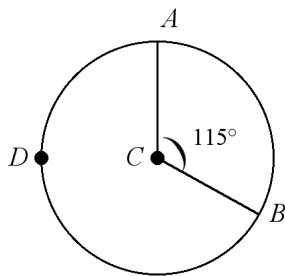
- a. 63 cm^2 b. 70 cm^2 c. 24.5 cm^2 d. 9 cm^2

_____ 36. Find the area of the rhombus.



- a. 12 m^2 b. 4096 m^2 c. 128 m^2 d. 32 m^2

_____ 37. Name the minor arc and find its measure.

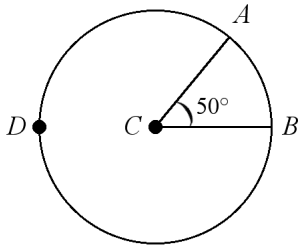


- a. arc ADB ; 30° b. arc AB ; 115° c. arc ADB ; 245° d. arc AB ; 245°

Name: _____

ID: A

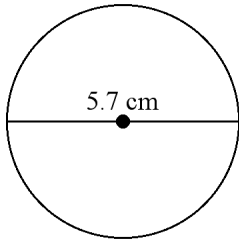
____ 38. Name the major arc and find its measure.



- a. arc ADB ; 50° b. arc AB ; 50° c. arc ADB ; 310° d. arc AB ; 310°

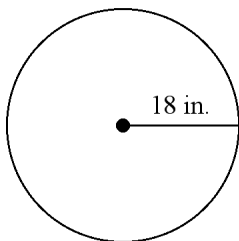
Find the circumference. Leave your answer in terms of π .

____ 39.



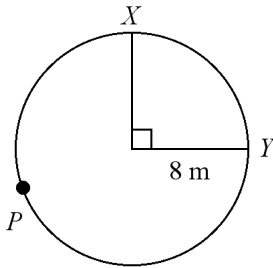
- a. 11.4π cm b. 8.55π cm c. 2.85π cm d. 5.7π cm

____ 40.



- a. 54π in. b. 36π in. c. 18π in. d. 324π in.

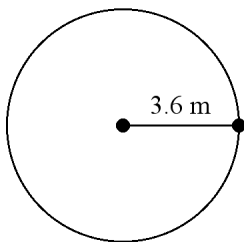
_____ 41. Find the length of arc XPY . Leave your answer in terms of π .



- a. 24π m b. 12π m c. 4π m d. 720π m

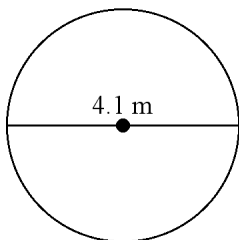
Find the area of the circle. Leave your answer in terms of π .

_____ 42.



- a. 25.92π m² b. 1.8π m² c. 12.96π m² d. 46.66π m²

_____ 43.



- a. 4.2025π m² b. 8.405π m² c. 16.81π m² d. 11.2π m²

_____ 44. If $\frac{a}{b} = \frac{5}{3}$, then $3a =$ _____.

- a. $3b$ b. $10b$ c. $5b$ d. $6b$

Solve the proportion.

_____ 45. $\frac{5}{7} = \frac{m}{35}$

a. $\frac{1}{25}$

b. 5

c. 1

d. 25

_____ 46. $\frac{3y - 8}{12} = \frac{y}{5}$

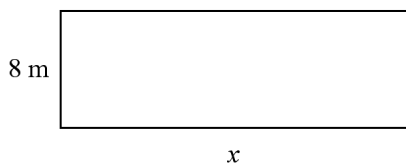
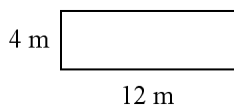
a. -10

b. -7

c. $\frac{3}{40}$

d. $\frac{40}{3}$

_____ 47. The two rectangles are similar. Which is a correct proportion for corresponding sides?



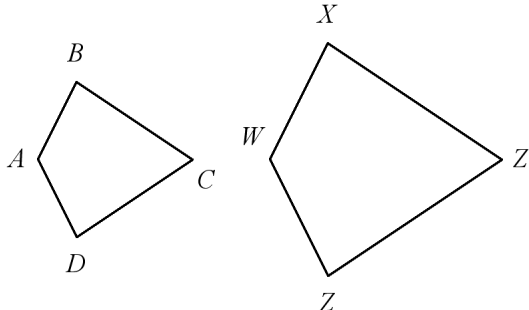
a. $\frac{12}{8} = \frac{x}{4}$

b. $\frac{12}{4} = \frac{x}{8}$

c. $\frac{12}{4} = \frac{x}{20}$

d. $\frac{4}{12} = \frac{x}{8}$

_____ 48. $ABCD \sim WXYZ$. $AD = 6$, $DC = 3$, and $WZ = 59$. Find YZ . The figures are not drawn to scale.



a. 118

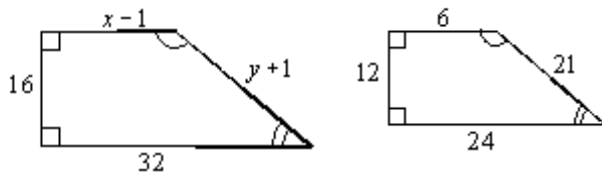
b. 29.5

c. 21.7

d. 177

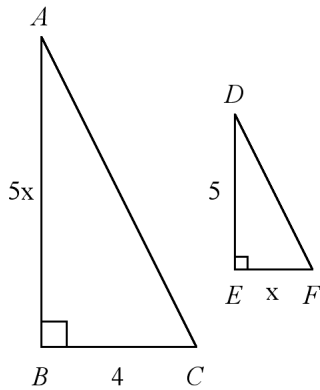
The polygons are similar, but not necessarily drawn to scale. Find the values of x and y .

_____ 49.



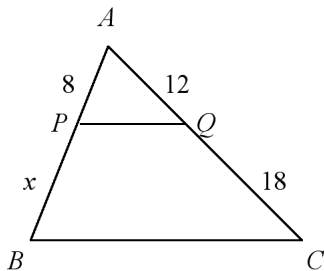
- | | |
|---|------------------------------|
| a. $x = \frac{11}{2}, y = \frac{59}{4}$ | c. $x = 9, y = \frac{59}{4}$ |
| b. $x = \frac{11}{2}, y = 27$ | d. $x = 9, y = 27$ |

_____ 50. Triangles ABC and DEF are similar. Find the lengths of AB and EF .



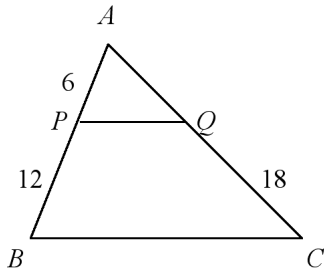
- | | |
|----------------------|----------------------|
| a. $AB = 2; EF = 10$ | c. $AB = 20; EF = 4$ |
| b. $AB = 10; EF = 2$ | d. $AB = 4; EF = 20$ |

_____ 51. Use the Side-Splitter Theorem to find x , given that $PQ \parallel BC$.



- | | | | |
|-------|------|-------|-------|
| a. 12 | b. 6 | c. 20 | d. 24 |
|-------|------|-------|-------|

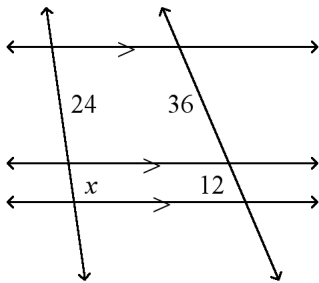
_____ 52. Given: $PQ \parallel BC$. Find the length of \overline{AQ} . The diagram is not drawn to scale.



- a. 11 b. 12 c. 18 d. 9

Solve for x .

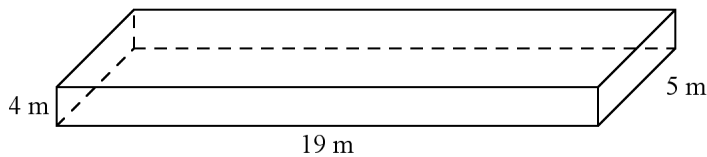
_____ 53.



- a. 8 b. 12 c. 6 d. 2

Use formulas to find the lateral area and surface area of the given prism. Show your answer to the nearest whole number.

_____ 54.

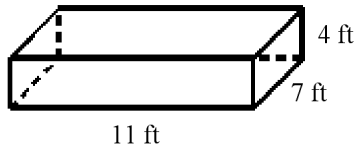


Not drawn to scale

- a. 192 m^2 ; 287 m^2 c. 192 m^2 ; 382 m^2
 b. 342 m^2 ; 287 m^2 d. 342 m^2 ; 382 m^2

Find the volume of the given prism. Round to the nearest tenth if necessary.

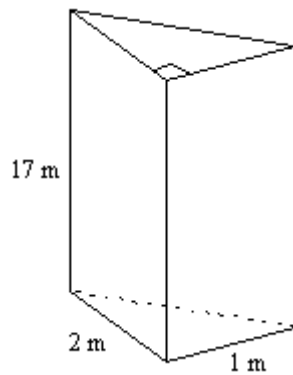
_____ 55.



Not drawn to scale

- a. 308 ft^3 b. 301 ft^3 c. 298 ft^3 d. 312 ft^3

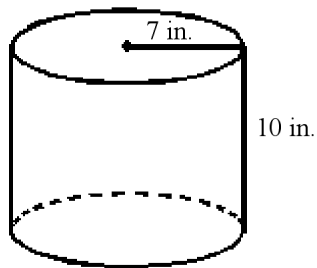
_____ 56.



- a. 17 m^3 b. 34 m^3 c. 8.5 m^3 d. 1 m^3

Find the volume of the cylinder in terms of π .

_____ 57.

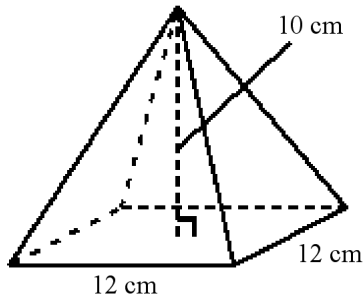


Not drawn to scale

- a. $140\pi \text{ in.}^3$ b. $490\pi \text{ in.}^3$ c. $70\pi \text{ in.}^3$ d. $245\pi \text{ in.}^3$

Find the volume of the square pyramid shown. Round to the nearest tenth as necessary.

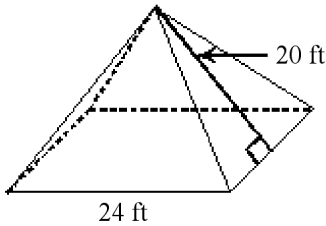
_____ 58.



Not drawn to scale

- a. 40 cm^3 b. 480 cm^3 c. 147.3 cm^3 d. 720 cm^3

_____ 59.

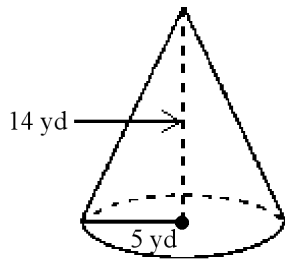


Not drawn to scale

- a. 192 ft^3 b. 9216 ft^3 c. 4608 ft^3 d. 3072 ft^3

Find the volume of the cone shown as a decimal rounded to the nearest tenth.

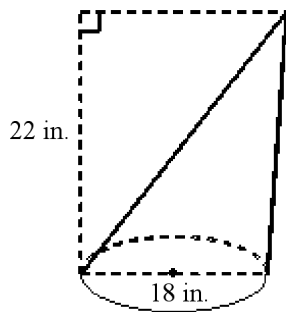
_____ 60.



Not drawn to scale

- a. 366.5 yd^3 b. 1026.3 yd^3 c. 73.3 yd^3 d. 549.8 yd^3

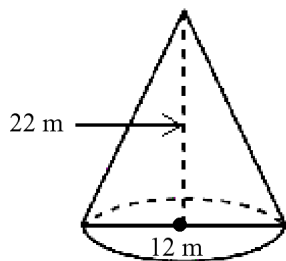
_____ 61.



Not drawn to scale

- a. 207.3 in.^3 b. 1866.1 in.^3 c. 5598.3 in.^3 d. 2799.2 in.^3

_____ 62.

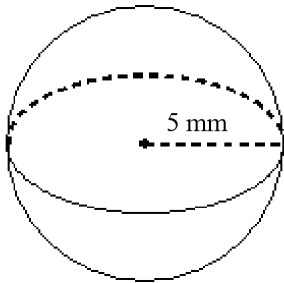


Not drawn to scale

- a. 552.9 m^3 b. 829.4 m^3 c. $1,244.1 \text{ m}^3$ d. $3,317.5 \text{ m}^3$

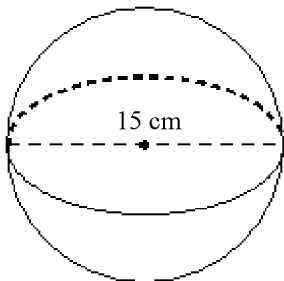
Find the volume of the sphere shown. Give each answer rounded to the nearest cubic unit.

_____ 63.



- a. 262 mm^3 b. 524 mm^3 c. 314 mm^3 d. 105 mm^3

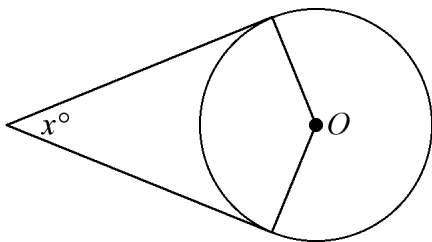
_____ 64.



- a. $1,767 \text{ cm}^3$ b. 442 cm^3 c. 236 cm^3 d. $14,137 \text{ cm}^3$

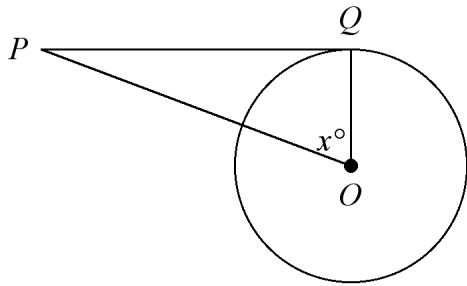
Assume that lines that appear to be tangent are tangent. O is the center of the circle. Find the value of x . (Figures are not drawn to scale.)

_____ 65. $m\angle O = 111$



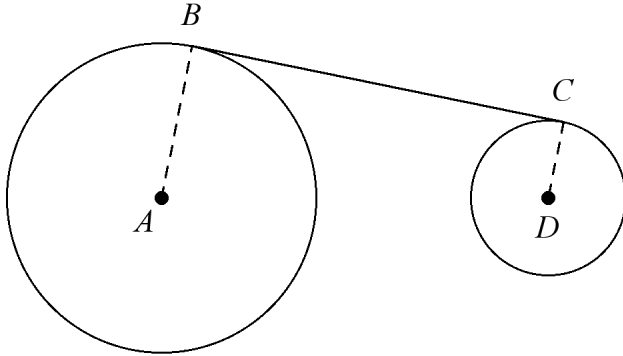
- a. 291 b. 69 c. 55.5 d. 222

____ 66. $m\angle P = 12$



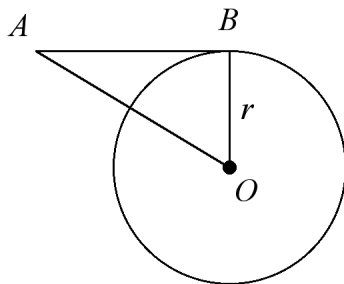
- a. 78 b. 39 c. 102 d. 24

____ 67. \overline{BC} is tangent to circle A at B and to circle D at C (not drawn to scale).
 $AB = 7$, $BC = 18$, and $DC = 5$. Find AD to the nearest tenth.



- a. 18.7 b. 18.1 c. 21.6 d. 19.3

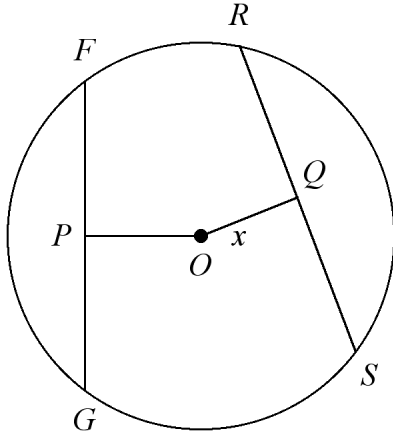
____ 68. \overline{AB} is tangent to circle O at B . Find the length of the radius r for $AB = 5$ and $AO = 8.6$. Round to the nearest tenth if necessary. The diagram is not to scale.



- a. 9.9 b. 7 c. 13 d. 3.6

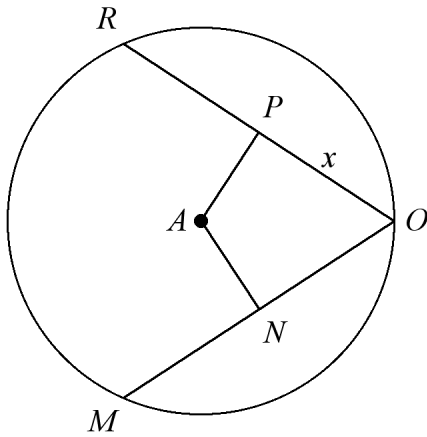
Find the value of x . If necessary, round your answer to the nearest tenth. The figure is not drawn to scale.

_____ 69. $FG \perp OP$, $RS \perp OQ$, $FG = 40$, $RS = 37$, $OP = 19$



- a. 27.2 b. 18.5 c. 19 d. 20.5

_____ 70. $NA \cong PA$, $MO \perp NA$, $RO \perp PA$, $MN = 6$ feet

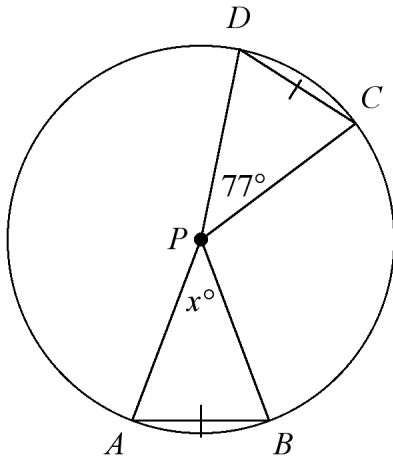


- a. 12 ft b. 36 ft c. 6 ft d. 3 ft

Name: _____

ID: A

____ 71.



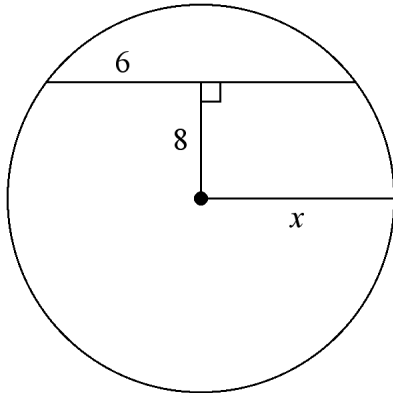
a. 13

b. 26

c. 77

d. 38.5

____ 72.



a. 8

b. 5

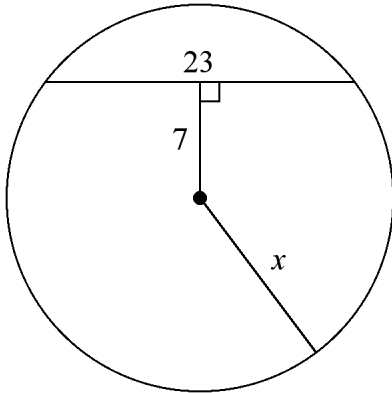
c. 6

d. 10

Name: _____

ID: A

____ 73.



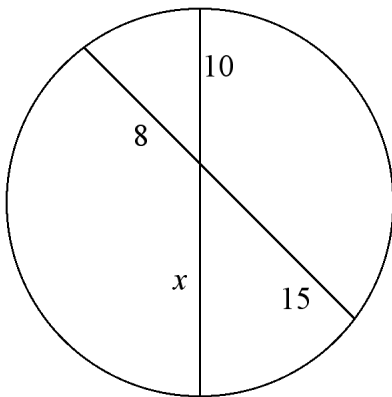
a. 21.9

b. 181.3

c. 24

d. 13.5

____ 74.



a. 18.8

b. 120

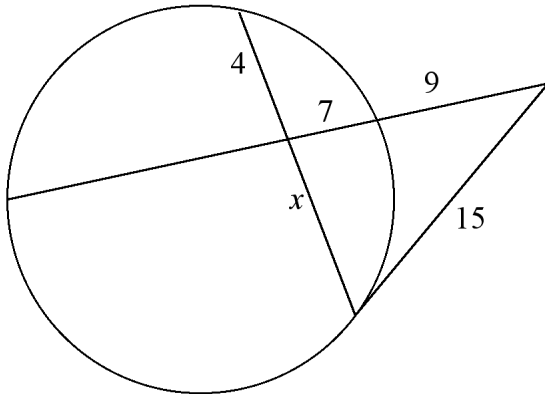
c. 5.3

d. 12

Name: _____

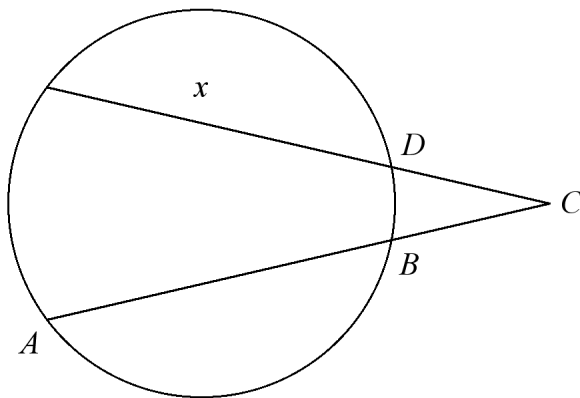
ID: A

____ 75. The figure consists of a chord, a secant and a tangent to the circle. Round to the nearest hundredth, if necessary.



- a. 15.75 b. 9 c. 5.14 d. 28

____ 76. $AB = 20$, $BC = 6$, and $CD = 8$

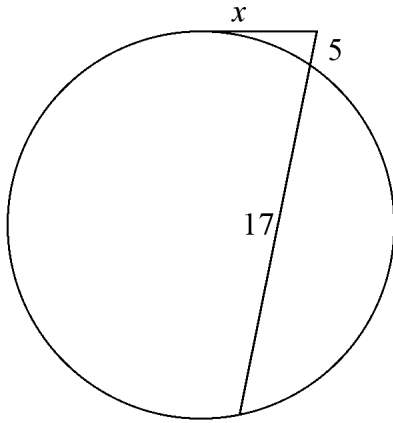


- a. 18.5 b. 11.5 c. 19.5 d. 15

Name: _____

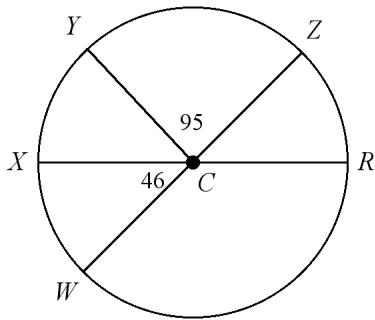
ID: A

____ 77.



- a. 19.34 b. 10.49 c. 110 d. 9.22

____ 78. \overline{WZ} and \overline{XR} are diameters. Find the measure of arc ZWX . (The figure is not drawn to scale.)

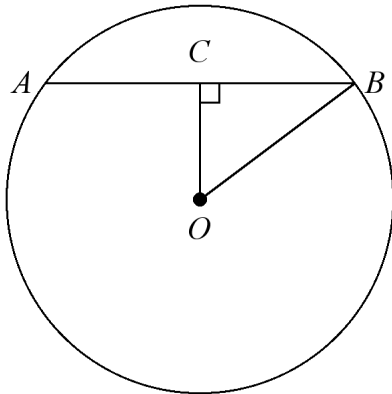


- a. 226 b. 275 c. 39 d. 321

Name: _____

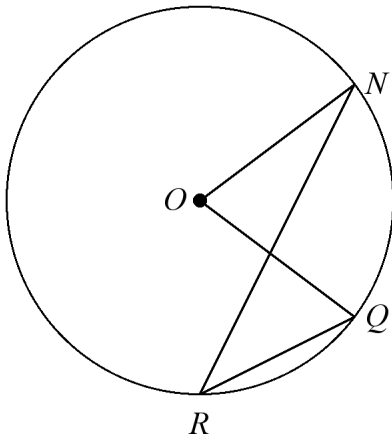
ID: A

____ 79. The radius of circle O is 18, and $OC = 13$. Find AB . Round to the nearest tenth, if necessary. (The figure is not drawn to scale.)



- a. 12.4 b. 3.8 c. 24.9 d. 44.4

____ 80. $m\angle R = 22$. Find $m\angle O$. (The figure is not drawn to scale.)

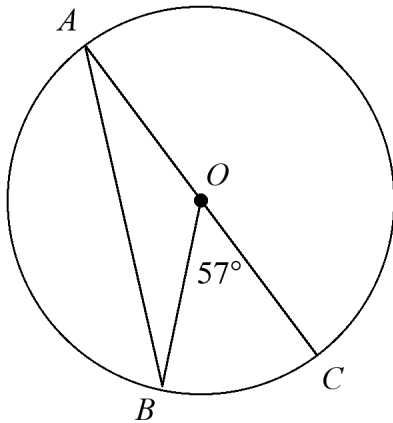


- a. 68 b. 22 c. 158 d. 44

Name: _____

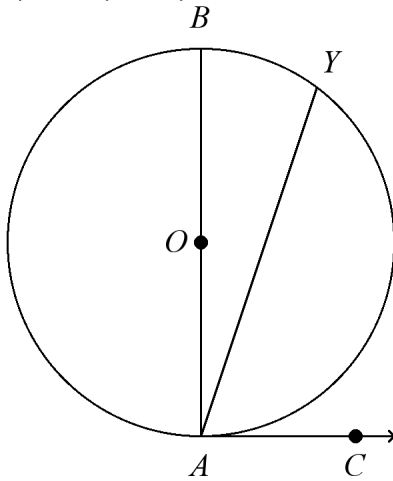
ID: A

____ 81. Find the measure of $\angle BAC$. (The figure is not drawn to scale.)



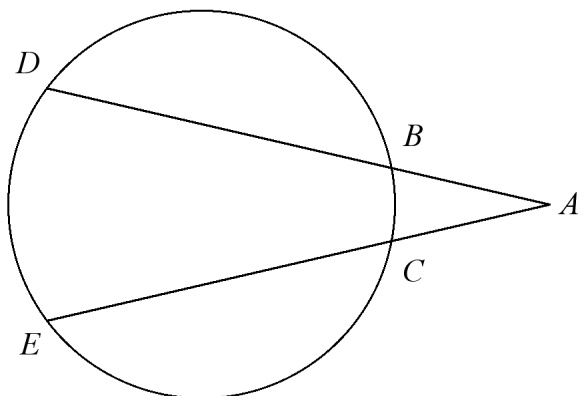
- a. 57 b. 28.5 c. 33 d. 114

____ 82. If $m(\text{arc } BY) = 40$, what is $m\angle YAC$? (The figure is not drawn to scale.)



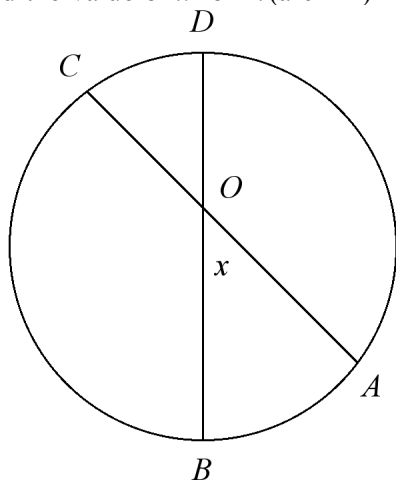
- a. 140 b. 100 c. 70 d. 80

_____ 83. $m(\text{arc } DE) = 96$ and $m(\text{arc } BC) = 67$. Find $m\angle A$. (The figure is not drawn to scale.)



- a. 14.5 b. 62.5 c. 81.5 d. 29

_____ 84. Find the value of x for $m(\text{arc } AB) = 46$ and $m(\text{arc } CD) = 25$. (The figure is not drawn to scale.)



- a. 35.5° b. 58.5° c. 71° d. 21°

Write the standard equation for the circle.

_____ 85. center $(2, 7)$, $r = 4$

- a. $(x - 7)^2 + (y - 2)^2 = 16$ c. $(x - 2)^2 + (y - 7)^2 = 16$
 b. $(x - 2)^2 + (y - 7)^2 = 4$ d. $(x + 2)^2 + (y + 7)^2 = 4$

_____ 86. center $(-6, -8)$, that passes through $(0, 0)$

a. $(x - 6)^2 + (y - 8)^2 = 10$

c. $(x + 6)^2 + (y + 8)^2 = 14$

b. $(x - 6)^2 + (y - 8)^2 = 196$

d. $(x + 6)^2 + (y + 8)^2 = 100$

_____ 87. Find the center and radius of the circle with equation $(x + 9)^2 + (y + 5)^2 = 64$.

a. center $(5, 9)$; $r = 8$

c. center $(-9, -5)$; $r = 64$

b. center $(9, 5)$; $r = 64$

d. center $(-9, -5)$; $r = 8$

Use the quadratic formula to solve the equation. If necessary, round to the nearest hundredth.

_____ 88. $2a^2 - 46a + 252 = 0$

a. 18, 28

b. -9, -14

c. 9, 14

d. -18, 28

_____ 89. $5y^2 - 8y = 2$

a. 1.82, -0.22

b. 11.2, -9.6

c. 3.64, -0.44

d. 0.22, -1.82

Use the Quadratic Formula to solve the equation.

_____ 90. $5x^2 + 9x - 2 = 0$

a. $\frac{2}{5}, -4$

b. $\frac{1}{5}, -2$

c. $\frac{56}{5}, -13$

d. $2, -\frac{1}{5}$

_____ 91. $-2x^2 + x + 8 = 0$

a. $\frac{1}{4} \pm \frac{\sqrt{65}}{4}$

c. $\frac{1}{2} \pm \frac{\sqrt{65}}{2}$

b. $4 \pm \frac{\sqrt{130}}{4}$

d. $\frac{1}{4} \pm \frac{\sqrt{32}}{2}$

**Geometry
Answer Section****2nd Semester Exam Review 2012****MULTIPLE CHOICE**

1. C
2. C
3. C
4. B
5. D
6. D
7. C
8. A
9. D
10. B
11. C
12. D
13. C
14. C
15. A
16. C
17. A
18. B
19. A
20. A
21. B
22. D
23. C
24. D
25. D
26. C
27. C
28. C
29. D
30. B
31. B
32. D
33. D
34. D
35. A
36. C
37. B
38. C
39. D
40. B

- 41. B
- 42. C
- 43. A
- 44. C
- 45. D
- 46. D
- 47. B
- 48. B
- 49. D
- 50. B
- 51. A
- 52. D
- 53. A
- 54. D
- 55. A
- 56. A
- 57. B
- 58. B
- 59. D
- 60. A
- 61. B
- 62. B
- 63. B
- 64. A
- 65. B
- 66. A
- 67. B
- 68. B
- 69. D
- 70. D
- 71. C
- 72. D
- 73. D
- 74. D
- 75. A
- 76. B
- 77. B
- 78. A
- 79. C
- 80. D
- 81. B
- 82. C
- 83. A
- 84. A
- 85. C
- 86. D

- 87. D
- 88. C
- 89. A
- 90. B
- 91. A