1. value:
10.00 points

Pisa Pizza Parlor is investigating the purchase of a new $45,000 delivery truck that would contain specially designed warming racks. The new truck would have a six-year useful life. It would save $5,400 per year over the present method of delivering pizzas. In addition, it would result in the sale of 1,800 more pizzas each year. The company realizes a contribution margin of $2 per pizza. (Ignore income taxes.)

Click here to view Exhibit 13B-1 and Exhibit 13B-2, to determine the appropriate discount factor(s) using tables.

Required:

1. What would be the total annual cash inflows associated with the new truck for capital budgeting purposes? **(Omit the "$" sign in your response.)**

Total annual cash inflows	$	9000

2. Find the internal rate of return promised by the new truck. **(Round discount factor(s) to 3 decimal places and final answer to the closest interest rate. Omit the "%" sign in your response.)**

Internal rate of return	5	%

3. In addition to the data already provided, assume that due to the unique warming racks, the truck will have a $13,000 salvage value at the end of six years. Under these conditions, compute the internal rate of return. **(Round discount factor(s) to 3 decimal places and final answer to the closest interest rate. Omit the "%" sign in your response.)**

Internal rate of return	11	%

check my work | eBook Link | View Hint #1 | references

2. value:
10.00 points

The management of Wallingford MicroBrew is considering the purchase of an automated bottling machine for $80,000. The machine would replace an old piece of equipment that costs $33,000 per year to operate. The new machine would cost $10,000 per year to operate. The old machine currently in use could be sold now for a scrap value of $5,000. The new machine would have a useful life of 10 years with no salvage value.

Required:
Compute the simple rate of return on the new automated bottling machine. Use straight-line depreciation method. **(Omit the "%" sign in your response.)**

Simple rate of return	20	%

check my work eBook Link View Hint #1 references

3. value:
10.00 points

The management of Opry Company, a wholesale distributor of suntan products, is considering the purchase of a $25,000 machine that would reduce operating costs in its warehouse by $4,000 per year. At the end of the machine's 10-year useful life, it will have no scrap value. The company's required rate of return is 12%. (Ignore income taxes.)

Click here to view Exhibit 13B-2, to determine the appropriate discount factor(s) using table.

Required:

1. Determine the net present value of the investment in the machine. **(Negative amount should be indicated by a minus sign. Round discount factor(s) to 3 decimal places, intermediate and final answers to the nearest dollar amount. Omit the "$" sign in your response.)**

Net present value	$	-2400

2. What is the difference between the total, undiscounted cash inflows and cash outflows over the entire life of the machine? **(Omit the "$" sign in your response.)**

Net cash flow	$	15000

check my work eBook Link View Hint #1 references

6. value: **10.00 points**

Note: *this question will not be automatically graded. It will be sent to your instructor for review.*

Download the Applying Excel form and enter formulas in all cells that contain question marks.

For example, in cell D18 enter the formula "= D5".

Note: The present value factors could be computed using the built-in Excel function PV, but we recommend using the formulas in Appendix 13B.

Verify that your worksheet matches the example in the text.

Check your worksheet by changing the discount rate to 10%. The net present value should now be between $56,518 and $56,535—depending on the precision of the calculations. If you do not get an answer in this range, find the errors in your worksheet and correct them.

Click here to view Exhibit 13B-1 and Exhibit 13B-2, to determine the appropriate discount factor(s) using tables.

Save your completed Applying Excel form to your computer and then upload it here by clicking "Browse." Next, click "Save." You will use this worksheet to answer the questions in Part 2.

download reference file

ch13_applying_excel_student_form.xls

your response

ch13_applying_excel_student_form.xls
remove

I deleted 4-5 on accident. I also attached the formulas and what the answer should look like.
My apologies, and good luck!

7. value: **10.00 points**

Requirement 2:
The company is considering a project involving the purchase of new equipment. Change the data area of your worksheet to match the following:

	A	B	C	D	E
1	**Chapter 13: Applying Excel**				
2					
3	**Data**				
4	**Example C**				
5	Cost of equipment needed			$77,000	
6	Working capital needed			$140,000	
7	Overhaul of equipment in	12	years	$10,000	
8	Salvage value of the equipment in	15	years	$20,000	
9	Annual revenues and costs:				
10	Sales revenues			$360,000	
11	Cost of goods sold			$255,000	
12	Out-of-pocket operating costs			$80,000	

(a) What is the net present value of the project? **(Negative amount should be indicated by a minus sign. Calculate the discount factor(s) using formula and do not round the discount factor(s). Round all other intermediate calculations and final answer to the nearest dollar amount. Omit the "$" sign in your response.)**

Net present value	$	-6646

(b) The internal rate of return is between what two whole discount rates (e.g., between 10% and 11%, between 11% and 12%, between 12% and 13%, between 13% and 14%, etc.)? **(Omit the "%" sign in your response.)**

The internal rate of return is between	14	% and	15	%

(c) Reset the discount rate to 11%. Suppose the salvage value is uncertain. How large would the salvage value have to be to result in a positive present value? **(Round final answer to the closest thousand. Omit the "$" sign in your response.)**

Minimum salvage value required to generate a positive present value	$	51803

check my work | eBook Links (2) | references | ebook & resources

	A	B	C	D	E	F
1	**Chapter 13: Applying Excel**					
2						
3	**Data**					
4	**Example C**					
5	Cost of equipment needed			$60,000		
6	Working capital needed			$100,000		
7	Overhaul of equipment in	4	years	$5,000		
8	Salvage value of the equipment in	5	years	$10,000		
9	Annual revenues and costs:					
10	Sales revenues			$200,000		
11	Cost of goods sold			$125,000		
12	Out-of-pocket operating costs			$35,000		
13	Discount rate			10%		
14						
15	*Enter a formula into each of the cells marked with a ? below*					
16	**Exhibit 13-4**					
17						
18	Sales revenues			$200,000		
19	Less cost of goods sold			$125,000		
20	Less out-of-pocket costs			$35,000		
21	Annual net cash inflows			$ 40,000		
22						
23				*Amount of*	*?*	*Present Value*
24		*Year(s)*		*Cash Flow*	*Factor**	*of Cash Flows*
25	Purchase of equipment		Now	-$60,000	1.000	$ (60,000)
26	Working capital needed		Now	-$100,000	1.000	$ (100,000)
27	Overhaul of equipment		4	-$5,000	0.683	$ (3,415)
28	Annual net cash inflows from sales of the product line	1-	5	$ 40,000	3.791	$ 151,631
29	Salvage value of equipment		5	$ 10,000	0.621	$ 6,209
30	Working capital released		5	$100,000	0.621	$ 62,092
31	Net present value					$ 56,518
32						
33	*Use the formulas from Appendix 13B:					
34	Present value of $1 = 1/(1+r)^n					
35	Present value of an annuity of $1 = (1/r)*(1-(1/(1+r)^n))					
36	where n is the number of years and r is the discount rate					
37						

	A	B	C	D	E	F
1	**Chapter 13: Applying Excel**					
2						
3	**Data**					
4	**Example C**					
5	Cost of equipment needed			77000		
6	Working capital needed			140000		
7	Overhaul of equipment in	12	years	10000		
8	Salvage value of the equipment in	15	years	20000		
9	Annual revenues and costs:					
10	Sales revenues			360000		
11	Cost of goods sold			255000		
12	Out-of-pocket operating costs			80000		
13	Discount rate			0.11		
14						
15	*Enter a formula into each of the cells marked with a ? below*					
16	**Exhibit 13-4**					
17						
18	Sales revenues			=D10		
19	Less cost of goods sold			=D11		
20	Less out-of-pocket costs			=D12		
21	Annual net cash inflows			=D18-D19-D20		
22						
23				*Amount of*	*?*	*Present Value*
24			*Year(s)*	*Cash Flow*	*Factor**	*of Cash Flows*
25	Purchase of equipment		Now	=-D5	1	=D25*E25
26	Working capital needed		Now	=-D6	1	=D26*E26
27	Overhaul of equipment		=B7	=-D7	=1/(1+D13)^C27	=D27*E27
28	Annual net cash inflows from sales of the product line		1- =B8	=D21	=(1/D13)*(1-(1/(1+D13)^C28))	=D28*E28
29	Salvage value of equipment		=B8	=D8	=1/(1+D13)^C29	=D29*E29
30	Working capital released		=B8	=D6	=1/(1+D13)^C30	=D30*E30
31	Net present value					=SUM(F25:F30)
32						
33	*Use the formulas from Appendix 13B:					
34	Present value of $1 = 1/(1+r)^n					
35	Present value of an annuity of $1 = (1/r)*(1-(1/(1+r)^n))					
36	where n is the number of years and r is the discount rate					

H	I
Computation of IRR	
Year	Cash Flows
0	=-(D5+D6)
1	=D21
2	=D21
3	=D21
4	=D21
5	=D21
6	=D21
7	=D21
8	=D21
9	=D21
10	=D21
11	=D21
12	=D21-D7
13	=D21
14	=D21
15	=D21+D8+D6
IRR>>	=IRR(I3:I18)

8. value:
10.00 points

The management of Weimar, Inc., a civil engineering design company, is considering an investment in a high-quality blueprint printer with the following cash flows:

Year	Investment	Cash Inflow
1	$38,000	$2,000
2	$6,000	$4,000
3		$8,000
4		$9,000
5		$12,000
6		$10,000
7		$8,000
8		$6,000
9		$5,000
10		$5,000

Required:

1. Determine the payback period of the investment. **(Round your answer to the nearest whole number.)**

Payback period	6	years

2. Would the payback period be affected if the cash inflow in the last year were several times larger?

- ○ Yes
- ◉ No

check my work | eBook Link | View Hint #1 | references

9. value:
10.00 points

Union Bay Plastics is investigating the purchase of automated equipment that would save $100,000 each year in direct labor and inventory carrying costs. This equipment costs $750,000 and is expected to have a 10-year useful life with no salvage value. The company's required rate of return is 15% on all equipment purchases. This equipment would provide intangible benefits such as greater flexibility and higher-quality output that are difficult to estimate and yet are quite significant. (Ignore income taxes.)

0077317769/student_view0/ebook/chapter13/chbody1/uncertain_cash_flows.htm#LO3

Click here to view Exhibit 13B-2, to determine the appropriate discount factor(s) using table.

Required:
What dollar value per year would the intangible benefits have to have in order to make the equipment an acceptable investment? **(Round discount factor to 3 decimal places, intermediate and final answers to the nearest dollar amount. Omit the "$" sign in your response.)**

Annual Value	$	49432

10. value:
10.00 points

Information on four investment proposals is given below:

	Investment Proposal			
	A	B	C	D
Investment required	$ (85,000)	$ (200,000)	$ (90,000)	$ (170,000)
Present value of cash inflows	119,000	250,000	135,000	221,000
Net present value	$ 34,000	$ 50,000	$ 45,000	$ 51,000
Life of the project	5 years	7 years	6 years	6 years

Required:

1. Compute the project profitability index for each investment proposal. **(Round your answers to 2 decimal places.)**

Proposal	Project Profitability Index
A	.4
B	.25
C	.50
D	.30

2. Rank the proposals in terms of preference.

- A B C D
- B C A D
- D C B A
- C A D B

check my work | eBook Link | View Hint #1 | references

The Heritage Amusement Park would like to construct a new ride called the Sonic Boom, which the park management feels would be very popular. The ride would cost $450,000 to construct, and it would have a 10% salvage value at the end of its 15-year useful life. The company estimates that the following annual costs and revenues would be associated with the ride: (Ignore income taxes):

Ticket revenues		$250,000
Less operating expenses:		
Maintenance	$40,000	
Salaries	90,000	
Depreciation	27,000	
Insurance	30,000	
Total operating expenses		187,000
Net operating income		$ 63,000

11.

value:
10.00 points

Required:

1a. Compute the pay back period associated with the new ride.

Payback period	5	years

1b. Assume that the Heritage Amusement Park will not construct a new ride unless the ride provides a payback period of six years or less. Does the Sonic Boom ride satisfy this requirement?

- (•) Yes
- ( ) No

check my work | eBook Links (2) | references

12.

value:
10.00 points

2a. Compute the simple rate of return promised by the new ride. **(Omit the "%" sign in your response.)**

Simple rate of return	14	%

2b. If Heritage Amusement Park requires a simple rate of return of at least 12%, does the Sonic Boom ride meet this criterion?

- (•) Yes
- ( ) No

check my work | eBook Links (2) | references

13. value:
10.00 points

Scalia's Cleaning Service is investigating the purchase of an ultrasound machine for cleaning window blinds. The machine would cost $136,700, including invoice cost, freight, and training of employees to operate it. Scalia's has estimated that the new machine would increase the company's cash flows, net of expenses, by $25,000 per year. The machine would have a 14-year useful life with no expected salvage value. (Ignore income taxes.)

Click here to view Exhibit 13B-2, to determine the appropriate discount factor(s) using table.

Required:

1. Compute the machine's internal rate of return. **(Round discount factor(s) to 3 decimal places and final answer to the closest interest rate. Omit the "%" sign in your response.)**

Internal rate of return	16	%

2. Compute the machine's net present value. Use a discount rate of 16%. **(Leave no cells blank - be certain to enter "0" wherever required. Round discount factor(s) to 3 decimal places, intermediate and final answers to the nearest dollar amount. Omit the "$" sign in your response.)**

Net present value	$	0

3. Suppose that the new machine would increase the company's annual cash flows, net of expenses, by only $20,000 per year. Under these conditions, compute the internal rate of return. **(Round discount factor(s) to 3 decimal places and final answer to the closest interest rate. Omit the "%" sign in your response.)**

Internal rate of return	11	%

check my work eBook Links (2) references

Points earned on auto-graded questions: 105 /110 pts

Points you may earn on instructor-graded questions: 20 pts

This assignment is worth: 130 pts