1. Which do you prefer: a bank account that pays 8% per year (EAR) for three years or:
   a. An account that pays 4% every six months for three years?
   b. An account that pays 12% every 18 months for three years?
   c. An account that pays 0.8% per month for three years?

   a. An account that pays 4% every six months for three years?

   If you deposit $1 into a bank account that pays 8% per year for three years, you will have $_____. (Round to five decimal places.)

   If you deposit $1 into a bank account that pays 4% every six months for three years, the amount you will receive after three years is $_____. (Round to five decimal places.)

   Therefore, you will prefer: (1) _____. (Select from the drop-down menu.)

   b. An account that pays 12% every 18 months for three years?

   If the account pays 12% every 18 months for three years, the amount you will receive after three years is $_____. (Round to five decimal places.)

   Therefore, you will prefer: (2) _____. (Select from the drop-down menu.)

   c. An account that pays 0.8% per month for three years?

   If the account pays 0.8% every month for three years, the amount you will receive after three years is $_____. (Round to five decimal places.)

   Therefore, you will prefer: (3) _____. (Select from the drop-down menu.)

   (1) ○ 8% per year for three years
   ○ 4% every six months for three years

   (2) ○ 8% per year for three years
   ○ 12% every 18 months for three years

   (3) ○ 0.8% every month for three years
   ○ 8 % per year for three years

2. Many academic institutions offer a sabbatical policy. Every seventh year a professor is given a year free of teaching and other administrative responsibilities at full pay. For a professor earning $70,000 per year who works for a total of 42 years, what is the present value of the amount she will earn while on sabbatical if the interest rate is 6% (EAR)? Note: Assume that the sabbatical annual salary is paid in one lump sum every 7 years.

   The equivalent discount rate is _____%. (Round to three decimal places.)

   The present value of the amount she will earn on sabbatical is $_____. (Round to the nearest dollar.)

3. You are considering moving your money to new bank offering a one-year CD that pays an 4% APR with monthly compounding. Your current bank's manager offers to match the rate you have been offered. The account at your current bank would pay interest every six months. How much interest will you need to earn every six months to match the CD?

First convert APR into a monthly discount rate:

The monthly discount rate is _____%. (Round to four decimal places.)

Then compound the monthly discount rate into a 6 month interest rate:

The equivalent 6-month discount rate is _____%. (Round to four decimal places.)

4. You have credit card debt of $30,000 that has an APR (monthly compounding) of 15%. Each month you pay the minimum monthly payment only. You are required to pay only the outstanding interest. You have received an offer in the mail for an otherwise identical credit card with an APR of 11%. After considering all your alternatives, you decide to switch cards, roll over the outstanding balance on the old card into the new card, and borrow additional money as well. How much can you borrow today on the new card without changing the minimum monthly payment you will be required to pay?
Hint: Make sure all calculations are held to at least five (5) decimal places.

The original loan payment is $_____. (Round to the nearest cent.)

Amount of total borrowing on the new card today can be $_____. (Round to the nearest dollar.)

5. Suppose the term structure of risk-free interest rates is as shown below:

Term	1 yr	2 yr	3 yr	5 yr	7 yr	10 yr	20 yr
Rate (EAR %)	1.99	2.41	2.74	3.32	3.76	4.13	4.93

What is the present value of an investment that pays $100 at the end of each of years 1, 2, and 3? If you wanted to value this investment correctly using the annuity formula, what discount rate should you use?

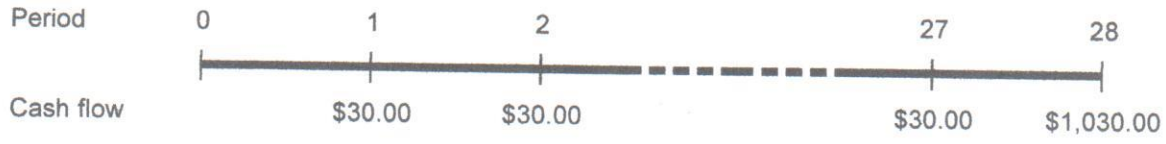
What is the present value of an investment that pays $100 at the end of each of years 1, 2, and 3?

The present value of the investment is $_____. (Round to the nearest cent.)

If you wanted to value this investment correctly using the annuity formula, what discount rate should you use?

The discount rate you should use if you want to use the annuity formula is _____%. (Round to two decimal places.)

6. Assume that a bond will make payments every six months as shown on the following timeline:



a. What is the maturity of the bond (in years)?
b. What is the coupon rate (in percent)?
c. What is the face value?

a. What is the maturity of the bond (in years)?

The maturity of the bond in years is _____ years. (Round to the nearest integer.)

b. What is the coupon rate (in percent)?

The coupon rate is _____%. (Round to two decimal places.)

c. What is the face value?

The face value is $_____. (Round to the nearest dollar.)

7. The prices of several bonds with face values of $1,000 are summarized in the following table:

Bond	A	B	C	D
Price	$896.78	$1,096.18	$1,149.22	$1,000.00

For each bond, provide an answer for whether it trades at a discount, at par, or at a premium.

Bond A trades at (a) (1) _____. (Select from the drop-down menu.)

Bond B trades at (a) (2) _____. (Select from the drop-down menu.)

Bond C trades at (a) (3) _____. (Select from the drop-down menu.)

Bond D trades at (a) (4) _____. (Select from the drop-down menu.)

(1)	(2)	(3)	(4)
○ discount	○ discount	○ discount	○ discount
○ par	○ par	○ par	○ par
○ premium	○ premium	○ premium	○ premium

8. You are considering an investment in a clothes distributer. The company needs $103,000 today and expects to repay you $120,000 in a year from now. What is the IRR of this investment opportunity? Given the riskiness of the investment opportunity, your cost of capital is 12%. What does the IRR rule say about whether you should invest?

What is the IRR of this investment opportunity?

The IRR of this investment opportunity is _____%. (Round to one decimal place.)

Given the riskiness of the investment opportunity, your cost of capital is 12%. What does the IRR rule say about whether you should invest?

The IRR rule says that you (1) _____. (Select from the drop-down menu.)

(1) ○ should be indifferent
○ should invest
○ should not invest

9. You have been offered a very long-term investment opportunity to increase your money one hundredfold. You can invest $1,500 today and expect to receive $150,000 in 40 years. Your cost of capital for this (very risky) opportunity is 25%. What does the IRR rule say about whether the investment should be undertaken? What about the NPV rule? Do they agree?

What is the IRR?

The IRR of this investment opportunity is _____%. (Round to one decimal place.)

What does the IRR rule say about whether the investment should be undertaken?

The IRR rule says that you (1) _____. (Select from the drop-down menu.)

What is the NPV?

The NPV for the investment is $_____. (Round to the nearest cent.)

What does the NPV rule suggest?

The NPV rule says that you (2) _____. (Select from the drop-down menu.)

Do they agree?

Both rules agree—(3) _____. (Select from the drop-down menu.)

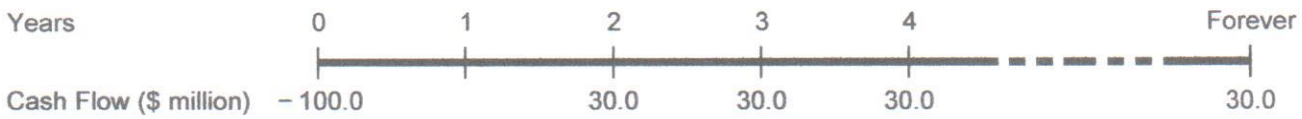
(1) ○ should invest
○ should not invest
○ should be indifferent

(2) ○ should invest
○ should not invest
○ should be indifferent

(3) ○ undertake the investment
○ do not undertake the investment

10. You are considering opening a new plant. The plant will cost $100.0 million upfront and will take one year to build. After that, it is expected to produce profits of $30.0 million at the end of every year of production. The cash flows are expected to last forever. Calculate the NPV of this investment opportunity if your cost of capital is 8.0%. Should you make the investment? *Calculate the IRR. Does the IRR rule agree with the NPV rule?*

Below is the cash flow timeline:



Calculate the NPV of this investment opportunity if your cost of capital is 8.0%.

The NPV of this investment opportunity is $_____ million. (Round to one decimal place.)

Should you make the investment? (Select the best choice below.)

- **A.** Yes, because the project will generate cash flows forever.
- **B.** No, because the NPV is not greater than the initial costs.
- **C.** No, because the NPV is less than zero.
- **D.** Yes, because the NPV is positive.

Calculate the IRR.

The IRR of the project is _____%. (Round to two decimal places.)

Does the IRR rule agree with the NPV rule? (Select the best choice below.)

- **A.** Since the IRR is less than the 8.0% discount rate, the IRR rule gives a different answer than the NPV rule.
- **B.** Since the IRR exceeds the 8.0% discount rate, the IRR rule gives the same answer as the NPV rule.
- **C.** *Since the IRR exceeds the 8.0% discount rate, the IRR rule gives a different answer than the* NPV rule.
- **D.** Since the IRR is less than the 8.0% discount rate, the IRR rule gives the same answer as the NPV rule.

11. You own a coal mining company and are considering opening a new mine. The mine itself will cost $117 million to open. If this money is spent immediately, the mine will generate $21 million for the next 10 years. After that, the coal will run out and the site must be cleaned and maintained at environmental standards. The cleaning and maintenance are expected to cost $1.7 million per year in perpetuity. *What does the IRR rule say about whether you should accept this opportunity? (Hint: Consider the number of sign changes in the cash flows.)* If the cost of capital is 7.9%, what does the NPV rule say?

What does the IRR rule say about whether you should accept this opportunity? (Select the best choice below.)

- ○ **A.** The IRR is 11.29%, so accept the opportunity.
- ○ **B.** There are two IRRs, so you cannot use the IRR as a criterion for accepting the opportunity.
- ○ **C.** Reject the opportunity because the IRR is lower than the 7.9% cost of capital.
- ○ **D.** Accept the opportunity because the IRR is greater than the cost of capital.

If the cost of capital is 7.9%, what does the NPV rule say? (Select the best choice below.)

- ○ **A.** Since the NPV is less than zero, reject the opportunity.
- ○ **B.** The NPV rule cannot be used because there are two IRRs.
- ○ **C.** The NPV rule cannot be used because there is no IRR.
- ○ **D.** Since the NPV is greater than or equal to zero, accept the opportunity.

12. You are considering investing in a new gold mine in South Africa. Gold in South Africa is buried very deep, so the mine will require an initial investment of $280 million. Once this investment is made, the mine is expected to produce revenues of $32 million per year for the next 20 years. It will cost $10 million per year to operate the mine. After 20 years, the gold will be depleted. The mine must then be stabilized on an ongoing basis, which will cost $4.8 million per year in perpetuity. Calculate the IRR of this investment. *(Hint: Plot the NPV as a function of the discount rate.)*

(Select the best choice below.)

- ○ **A.** No positive IRR exists since the NPV, calculated as a function of various discount rates, never equals or exceeds zero.
- ○ **B.** There are multiple IRRs.
- ○ **C.** The IRR is infinite as a result of the perpetuity.
- ○ **D.** The IRR is about 13%.

13. Consider two investment projects, which both require an upfront investment of $10 million, and both of which pay a constant positive amount each year for the next 10 years. Under what conditions can you rank these projects by comparing their IRRs?

(Select the best choice below.)

- ○ **A.** Ranking by IRR will work in this case so long as the projects' cash flows do not decrease from year to year.
- ○ **B.** Ranking by IRR will work in this case so long as the projects' cash flows do not increase from year to year.
- ○ **C.** There are no conditions under which you can use the IRR to rank projects.
- ○ **D.** Ranking by IRR will work in this case so long as the projects have the same risk.

14. Facebook is considering two proposals to overhaul its network infrastructure. They have received two bids. The first bid from Huawei will require a $22 million upfront investment and will generate $20 million in savings for Facebook each year for the next 3 years. The second bid from Cisco requires a $82 million upfront investment and will generate $60 million in savings each year for the next 3 years.

a. What is the IRR for Facebook associated with each bid?

b. If the cost of capital for each investment is 19%, what is the net present value (NPV) for Facebook of each bid?

Suppose Cisco modifies its bid by offering a lease contract instead. Under the terms of the lease, Facebook will pay $26 million upfront, and $35 million per year for the next 3 years. Facebook's savings will be the same as with Cisco's original bid.

c. Including its savings, what are Facebook's net cash flow under the lease contract? What is the IRR of the Cisco bid now?

d. Is this new bid a better deal for Facebook than Cisco's original bid? Explain.

---

a. What is the IRR for AOL associated with each bid?

The IRR associated with the first bid from Huawei is _____%. (Round to one decimal place.)

The IRR associated with the Cisco opportunity is _____%. (Round to one decimal place.)

b. If the cost of capital for this investment is 19%, what is the *NPV* of each bid?

The NPV for Huawei's bid is $_____ million. (Round to two decimal places)

The NPV for the Cisco opportunity is $_____ million. (Round to two decimal places)

Suppose Cisco modifies its bid by offering a lease contract instead. Under the terms of the lease, AOL will pay $26 million upfront, and $35 million per year for the next 3 years. AOL's savings will be the same as with Cisco's original bid.

c. What are Facebook's net cash flow under the lease contract? (Round to the nearest dollar.)

Year	0	1	2	3
Cash Flow ($)				

What is the IRR of the Cisco bid now?

The IRR of the Cisco bid is now _____%. (Round to one decimal place.)

d. Is this new bid a better deal for Facebook than Cisco's original bid? Explain. (Select the best answer below.)

- ○ **A.** No. Despite a higher IRR, it actually involves borrowing $35 million upfront and paying $56 million per year. which is a borrowing cost of 39.45%, which is higher than Facebook's borrowing cost.
- ○ **B.** No. Despite a higher IRR, it actually involves borrowing $56 million upfront and paying $35 million per year. which is a borrowing cost of 39.45%, which is higher than Facebook's borrowing cost.
- ○ **C.** Yes. Because of the higher IRR, it actually involves borrowing $56 million upfront and paying $35 million per year. which is a borrowing cost of 39.45%, which is lower than Facebook's borrowing cost.
- ○ **D.** Yes. Because of the higher IRR, it actually involves borrowing $35 million upfront and paying $56 million per year. which is a borrowing cost of 39.45%, which is lower than Facebook's borrowing cost.

15. You own a car dealership and are trying to decide how to configure the showroom floor. The floor has 2000 square feet of usable space. You have hired an analyst and asked her to estimate the NPV of putting a particular model on the floor and how much space each model requires:

Model	NPV	Space Requirement (sq. ft.)
MB345	$3,000	200
MC237	$5,000	250
MY456	$4,000	240
MG231	$1,000	150
MT347	$6,000	450
MF302	$4,000	200
MG201	$1,500	150

In addition, the showroom also requires office space. The analyst has estimated that office space generates a NPV of $14 per square foot. What models should be displayed on the floor and how many square feet should be devoted to office space?

Complete the PI table below: (Round to two decimal places.)

Model	NPV	Space Requirement (sq. ft.)	PI
MB345	$3,000	200	$
MC237	$5,000	250	$
MY456	$4,000	240	$
MG231	$1,000	150	$
MT347	$6,000	450	$
MF302	$4,000	200	$
MG201	$1,500	150	$

The models that should be displayed are: (Select the best choice below.)

- A. MG231, and MG201
- B. MT347 and MY456
- C. MC237, MY456, MB345, and MF302
- D. All the models should be displayed.

The number of square feet that should be devoted to the office space is _____ sq. ft. (Round to the nearest integer.)

16. Watch the video called "Capital Budgeting and the Boeing Dreamliner.[1]"

Boeing has decided that the Dreamliner has a positive NPV. How does pursuing this decision affect shareholder value?

- A. The impact is ambiguous. We have to wait and see how it turns out.
- B. It has no effect on shareholder value.
- C. It increases shareholder value.
- D. It will reduce shareholder value because the project requires significant investment in the early years, with only a hope that it will pay off in later years.

1: http://https://mediaplayer.pearsoncmg.com/assets/Jk8XgiXyZoSg4_D7QHZg4R1GvYI_gM4W

17. Pisa Pizza, a seller of frozen pizza, is considering introducing a healthier version of its pizza that will be low in cholesterol and contain no trans fats. The firm expects that sales of the new pizza will be $22 million per year. While many of these sales will be to new customers, Pisa Pizza estimates that 38% will come from customers who switch to the new, healthier pizza instead of buying the original version.

a. Assume customers will spend the same amount on either version. What level of incremental sales is associated with introducing the new pizza?

b. Suppose that 40% of the customers who will switch from Pisa Pizza's original pizza to its healthier pizza will switch to another brand if Pisa Pizza does not introduce a healthier pizza. What level of incremental sales is associated with introducing the new pizza in this case?

a. Assume customers will spend the same amount on either version. What level of incremental sales is associated with introducing the new pizza?

The incremental sales are $_____ million. (Round to two decimal places.)

b. Suppose that 40% of the customers who will switch from Pisa Pizza's original pizza to its healthier pizza will switch to another brand if Pisa Pizza does not introduce a healthier pizza. In this case, what level of incremental sales is associated with introducing the new pizza?

The incremental sales are $_____ million. (Round to two decimal places.)

18. Elmdale Enterprises is deciding whether to expand its production facilities. Although long-term cash flows are difficult to estimate, management has projected the following cash flows for the first two years (in millions of dollars):

	Year 1	Year 2
Revenues	125.4	169.6
COGS and Operating expenses (other than depreciation)	44.5	51.1
Depreciation	23.1	34.4
Increase in working capital	5.9	7.3
Capital expenditures	33.1	37.5
Marginal corporate tax rate	41%	41%

a. What are the incremental earnings for this project for years 1 and 2?
b. What are the free cash flows for this project for the first two years?

a. What are the incremental earnings for this project for years 1 and 2?

The incremental earnings for year 1 is $_____ million. (Round to one decimal place.)

The incremental earnings for year 2 is $_____ million. (Round to one decimal place.)

b. What are the free cash flows for this project for the first two years?

The free cash flow for year 1 is $_____ million. (Round to one decimal place.)

The free cash flow for year 2 is $_____ million. (Round to one decimal place.)

19. You are evaluating the HomeNet project under the following assumptions: Sales of 50,000 units in year 1 increasing by 50,000 units per year over the life of the project, a year 1 sales price of $260/unit, decreasing by 10% annually and a year 1 cost of $120/unit decreasing by 20% annually. In addition, new tax laws allow you to depreciate the equipment, costing $7.5 million, over three years using straight-line depreciation. Research and development expenditures total $15 million in year 0 and selling, general, and administrative expenses are $2.8 million per year (assuming there is no cannibalization).

Also assume HomeNet will have no incremental cash or inventory requirements (products will be shipped directly from the contract manufacturer to customers). However, receivables related to HomeNet are expected to account for 15% of annual sales, and payables are expected to be 15% of the annual cost of goods sold. Under these assumptions the unlevered net income, net working capital requirements and free cash flow are shown in the Table [2]. Using the FCF projections given:

a. Calculate the NPV of the HomeNet project assuming a cost of capital of 10%, 12% and 14%.

b. What is the IRR of the project in this case?

a. Calculate the NPV of the HomeNet project assuming a cost of capital of 10%, 12% and 14%.

The NPV of the FCF's of the HomeNet project assuming a cost of capital of 10% is $_____. (Round to the nearest thousand dollars.)

The NPV of the FCF's of the HomeNet project assuming a cost of capital of 12% is $_____. (Round to the nearest thousand dollars.)

The NPV of the FCF's of the HomeNet project assuming a cost of capital of 14% is $_____. (Round to the nearest thousand dollars.)

b. What is the IRR of the project in this case?

The IRR is _____%. (Round to one decimal place.)

2: Free Cash Flow Table

Year	0	1	2	3	4	5
HomeNet						
Units Sales (000s)	50	50	100	150	200	-
Sales Price ($/unit)	10%	260	234.00	210.60	189.54	
Cost of Goods Sold ($/unit)	20%	120	96.00	76.80	61.44	-
Operating Expenses ($000s)						-
Hardware & Software Develop.	(15,000)					-
Marketing & Technical Support		(2,800)	(2,800)	(2,800)	(2,800)	-
Capital Expenditures						-
Lab Equipment	(7,500)					-
Depreciation		33%	33%	33%	-	-
Marginal Corporate Tax Rate	40%	40%	40%	40%	40%	-

	Year	0	1	2	3	4	5
Incremental Earnings Forecast ($000)							
1	Sales	-	13,000	23,400	31,590	37,908	-
2	Cost of Goods Sold	-	(6,000)	(9,600)	(11,520)	(12,288)	-
3	Gross Profits	-	7,000	13,800	20,070	25,620	-
4	Selling, General, and Administrative	-	(2,800)	(2,800)	(2,800)	(2,800)	-
5	Research and Development	(15,000)	-	-	-	-	-
6	Depreciation	-	(2,500)	(2,500)	(2,500)	-	-
7	EBIT	(15,000)	1,700	8,500	14,770	22,820	-
8	Income Tax at 40%	6,000	(680)	(3,400)	(5,908)	(9,128)	-
9	Unlevered Net Income	(9,000)	1,020	5,100	8,862	13,692	-
Free Cash Flow ($000)							
10	Plus: Depreciation	-	2,500	2,500	2,500	-	-
11	Less: Capital Expenditures	(7,500)	-	-	-	-	-
12	Less: Increases in NWC		(1,050)	(1,020)	(941)	(832)	
13	Free Cash Flow	(16,500)	2,470	6,580	10,421	12,860	3,843

20. Billingham Packaging is considering expanding its production capacity by purchasing a new machine, the XC-750. The cost of the XC-750 is $2.77 million. Unfortunately, installing this machine will take several months and will partially disrupt production. The firm has just completed a $46,000 feasibility study to analyze the decision to buy the XC-750, resulting in the following estimates:

- *Marketing:* Once the XC-750 is operational next year, the extra capacity is expected to generate $10.10 million per year in additional sales, which will continue for the ten-year life of the machine.
- *Operations:* The disruption caused by the installation will decrease sales by $5.06 million this year. As with Billingham's existing products, the cost of goods for the products produced by the XC-750 is expected to be 71% of their sale price. The increased production will also require increased inventory on hand of $1.08 million during the life of the project, including year 0 and depleted in year 10.
- *Human Resources:* The expansion will require additional sales and administrative personnel at a cost of $1.92 million per year.
- *Accounting:* The XC-750 will be depreciated via the straight-line method over the ten-year life of the machine. The firm expects receivables from the new sales to be 15% of revenues and payables to be 9% of the cost of goods sold.

Billingham's marginal corporate tax rate is 35%.

a. Determine the incremental earnings from the purchase of the XC-750.
b. Determine the free cash flow from the purchase of the XC-750.
c. If the appropriate cost of capital for the expansion is 9.9%, compute the NPV of the purchase.
d. While the expected new sales will be $10.10 million per year from the expansion, estimates range from $8.20 million to $12.00 million. What is the NPV in the worst case? In the best case?
e. What is the break-even level of new sales from the expansion? If the firm believes that sales will not increase, but costs would be reduced by purchasing the new machine, what is the break-even level for the cost of goods sold?
f. Billingham could instead purchase the XC-900, which offers even greater capacity. The cost of the XC-900 is $4.01 million. The extra capacity would not be useful in the first two years of operation, but would allow for additional sales in years 3-10. What level of additional sales (above the $10.10 million expected for the XC-750) per year in those years would justify purchasing the larger machine?

a. Determine the incremental earnings from the purchase of the XC-750.

Calculate the incremental earnings from the purchase of the XC-750 below: (Round to the nearest dollar.)

Incremental Earnings

Year	**0**
Sales Revenues	$
Cost of Goods Sold	$
S, G, and A Expenses	$
Depreciation	$
EBIT	$
Taxes at 35%	$
Unlevered Net Income	$

(Round to the nearest dollar.)

Incremental Earnings

Year	**1-10**
Sales Revenues	$
Cost of Goods Sold	$
S, G, and A Expenses	$
Depreciation	$
EBIT	$
Taxes at 35%	$
Unlevered Net Income	$

b. Determine the free cash flow from the purchase of the XC-750.

Calculate the free cash flow from the purchase of the XC-750: (Round to the nearest dollar.)

Incremental Free Cash Flow Year	0
Unlevered Net Income	$
Depreciation	$
Capital Expenditures	$
Change in Net Working Capital	$
Free cash flow	$

(Round to the nearest dollar.)

Incremental Free Cash Flow Year	1
Unlevered Net Income	$
Depreciation	$
Capital Expenditures	$
Change in Net Working Capital	$
Free cash flow	$

(Round to the nearest dollar.)

Incremental Free Cash Flow Year	2-9
Unlevered Net Income	$
Depreciation	$
Capital Expenditures	$
Change in Net Working Capital	$
Free cash flow	$

(Round to the nearest dollar.)

Incremental Free Cash Flow Year	10
Unlevered Net Income	$
Depreciation	$
Capital Expenditures	$
Change in Net Working Capital	$
Free cash flow	$

(Round to the nearest dollar.)

Incremental Free Cash Flow

Year	11
Unlevered Net Income	$
Depreciation	$
Capital Expenditures	$
Change in Net Working Capital	$
Free cash flow	$

c. If the appropriate cost of capital for the expansion is 9.9%, compute the NPV of the purchase.

The NPV of the purchase is $_____. (Round to the nearest dollar.)

d. While the expected new sales will be $10.10 million per year from the expansion, estimates range from $8.20 million to $12.00 million. What is the NPV in the worst case? In the best case?

The NPV of the purchase for sales of $8.20 million is $_____. (Round to the nearest dollar.)

The NPV of the purchase for sales of $12.00 million is $_____. (Round to the nearest dollar.)

e. What is the break-even level of new sales from the expansion?

The break-even level of new sales from the expansion is $_____. (Round to the nearest dollar.)

What is the break-even level for the cost of goods sold?

The break-even level for the cost of goods sold is $_____. (Round to the nearest dollar.)

f. Billingham could instead purchase the XC-900, which offers even greater capacity. The cost of the XC-900 is $4.01 million. The extra capacity would not be useful in the first two years of operation, but would allow for additional sales in years 3-10. What level of additional sales (above the $10.10 million expected for the XC-750) per year in those years would justify purchasing the larger machine?

The additional sales are $_____. (Round to the nearest dollar.)