

The following questions are designed to test your knowledge of the fundamental concepts of financial management structure [chapter 1], financial valuation [chapter 2], financial statements and tax planning [chapter 3], and short-term financial forecasting and financing [chapter 14]. Choose the best possible answer to the questions given. Each question is equally weighted. Papers are due 2/26/09 at the beginning of class.

True/False

Indicate whether the statement is true or false.

- ___ 1. There are three primary disadvantages of a regular partnership: (1) unlimited liability, (2) limited life of the organization, and (3) difficulty of transferring ownership. These combine to make it difficult for partnerships to attract large amounts of capital and thus to grow to a very large size.
- ___ 2. One of the functions of NYSE specialists is to facilitate trading by keeping an inventory of shares of the stocks in which they specialize, buying when investors want to sell and selling when they want to buy. They change the bid and ask prices of the securities so as to keep supply and demand in balance.
- ___ 3. Suppose an investor plans to invest a given sum of money. She can earn an effective annual rate of 5% on Security A, while Security B will provide an effective annual rate of 12%. Within 11 years' time, the compounded value of Security B will be more than twice the compounded value of Security A. (Ignore risk, and assume that compounding occurs daily.)
- ___ 4. When a loan is amortized, a relatively high percentage of the payment goes to reduce the outstanding principal in the early years, and the principal repayment's percentage declines in the loan's later years.
- ___ 5. Consider the balance sheet of Wilkes Industries as shown below. Because Wilkes has \$800,000 of retained earnings, the company would be able to pay cash to buy an asset with a cost of \$200,000.

Cash	\$ 50,000	Accounts payable	\$ 100,000
Inventory	200,000	Accruals	<u>100,000</u>
Accounts receivable	<u>250,000</u>	Total CL	<u>\$ 200,000</u>
Total CA	<u>\$ 500,000</u>	Debt	200,000
Net fixed assets	\$ 900,000	Common stock	200,000
		Retained earnings	<u>800,000</u>
Total assets	<u>\$1,400,000</u>	Total L & E	<u>\$1,400,000</u>

- ___ 6. To estimate the cash flow from operations, depreciation must be added back to net income because it is a non-cash charge that has been deducted from revenue.
- ___ 7. The first, and most critical, step in constructing a set of pro forma financial statements is the sales forecast.
- ___ 8. Two firms with identical capital intensity ratios are generating the same amount of sales. However, Firm A is operating at full capacity, while Firm B is operating below capacity. If the two firms expect the same growth in sales during the next period, then Firm A is likely to need more additional funds than Firm B, other things held constant.

Multiple Choice

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

- ___ 9. Which of the following statements is CORRECT?
- a. One of the disadvantages of a sole proprietorship is that the proprietor is exposed to unlimited liability.

- b. It is generally easier to transfer one's ownership interest in a partnership than in a corporation.
 - c. One of the advantages of the corporate form of organization is that it avoids double taxation.
 - d. One of the advantages of a corporation from a social standpoint is that every stockholder has equal voting rights, i.e., "one person, one vote."
 - e. Corporations of all types are subject to the corporate income tax.
- _____ 10. Which of the following could explain why a business might choose to operate as a corporation rather than as a sole proprietorship or a partnership?
- a. Corporations generally find it relatively difficult to raise large amounts of capital.
 - b. Less of a corporation's income is generally subjected to taxes than would be true if the firm were a partnership.
 - c. Corporate shareholders escape liability for the firm's debts, but this factor may be offset by the tax disadvantages of the corporate form of organization.
 - d. Corporate investors are exposed to unlimited liability.
 - e. Corporations generally face relatively few regulations.
- _____ 11. Which of the following statements is CORRECT?
- a. In a regular partnership, liability for other partners' misdeeds is limited to the amount of a particular partner's investment in the business.
 - b. Partnerships have more difficulty attracting large amounts of capital than corporations because of such factors as unlimited liability, the need to reorganize when a partner dies, and the illiquidity (difficulty buying and selling) of partnership interests.
 - c. A slow-growth company, with little need for new capital, would be more likely to organize as a corporation than would a faster growing company.
 - d. In a limited partnership, the limited partners have voting control, while the general partner has operating control over the business. Also, the limited partners are individually responsible, on a pro rata basis, for the firm's debts in the event of bankruptcy.
 - e. A major disadvantage of all partnerships relative to all corporations is the fact that federal income taxes must be paid by the partners rather than by the firm itself.
- _____ 12. Which of the following statements is CORRECT?
- a. The proper goal of the financial manager should be to attempt to maximize the firm's expected cash flows, because this will add the most to the wealth of the individual shareholders.
 - b. The financial manager should seek that combination of assets, liabilities, and capital that will generate the largest expected projected after-tax income over the relevant time horizon, generally the coming year.
 - c. The riskiness inherent in a firm's earnings per share (EPS) depends on the characteristics of the projects the firm selects, and thus on the firm's assets. However, EPS is not affected by the manner in which those assets are financed.
 - d. Potential agency problems can arise between stockholders and managers, because managers hired as agents to act on behalf of the owners may instead make decisions favorable to themselves rather than the stockholders.
 - e. Large, publicly-owned firms like AT&T and GM are controlled by their management teams. Ownership is generally widely dispersed, hence managers have great freedom in how they manage the firm. Managers may operate in stockholders' best interests, but they may also operate in their own personal best interests. As long as managers stay within the law, there is no way to either force or motivate them to act in the stockholders' best interests.
- _____ 13. You are analyzing the value of a potential investment by calculating the sum of the present values of its expected cash flows. Which of the following would lower the calculated value of the investment?

- a. The cash flows are in the form of a deferred annuity, and they total to \$100,000. You learn that the annuity lasts for only 5 rather than 10 years, hence that each payment is for \$20,000 rather than for \$10,000.
 - b. The discount rate increases.
 - c. The riskiness of the investment's cash flows decreases.
 - d. The total amount of cash flows remains the same, but more of the cash flows are received in the earlier years and less are received in the later years.
 - e. The discount rate decreases.
- ___ 14. Last year Toto Corporation's sales were \$225 million. If sales grow at 6% per year, how large (in millions) will they be 5 years later?
- a. \$271.74
 - b. \$286.05
 - c. \$301.10
 - d. \$316.16
 - e. \$331.96
- ___ 15. Last year Mason Corp's earnings per share were \$2.50, and its growth rate during the prior 5 years was 9.0% per year. If that growth rate were maintained, how many years would it take for Mason's EPS to double?
- a. 5.86
 - b. 6.52
 - c. 7.24
 - d. 8.04
 - e. 8.85
- ___ 16. Your aunt is about to retire, and she wants to buy an annuity that will provide her with \$65,000 of income a year for 25 years, with the first payment coming immediately. The going rate on such annuities is 6.25%. How much would it cost her to buy the annuity today?
- a. \$739,281.38
 - b. \$778,190.93
 - c. \$819,148.35
 - d. \$862,261.42
 - e. \$905,374.49
- ___ 17. What is the present value of the following cash flow stream at an interest rate of 12.0% per year? \$0 at Time 0; \$1,500 at the end of Year 1; \$3,000 at the end of Year 2; \$4,500 at the end of Year 3; and \$6,000 at the end of Year 4.
- a. \$9,699.16
 - b. \$10,209.64
 - c. \$10,746.99
 - d. \$11,284.34
 - e. \$11,848.55
- ___ 18. An investment costs \$1,000 (CF at $t = 0$) and is expected to produce cash flows of \$75 at the end of each of the next 5 years, then an additional lump sum payment of \$1,000 at the end of the 5th year. What is the expected rate of return on this investment?
- a. 6.77%
 - b. 7.13%
 - c. 7.50%
 - d. 7.88%
 - e. 8.27%
- ___ 19. Suppose a bank offers to lend you \$10,000 for 1 year on a loan contract that calls for you to make interest payments of \$250.00 at the end of each quarter and then pay off the principal amount at the end of the year. What is the effective annual rate on the loan?
- a. 8.46%

- b. 8.90%
- c. 9.37%
- d. 9.86%
- e. 10.38%

- _____ 20. Other things held constant, which of the following actions would increase the amount of cash on a company's balance sheet?
- a. The company repurchases common stock.
 - b. The company pays a dividend.
 - c. The company issues new common stock.
 - d. The company gives customers more time to pay their bills.
 - e. The company purchases a new piece of equipment.
- _____ 21. Below are the 2005 and 2006 year-end balance sheets for Wolken Enterprises:

<u>Assets:</u>	2006	2005
Cash	\$ 200,000	\$ 170,000
Accounts receivable	864,000	700,000
Inventories	<u>2,000,000</u>	<u>1,400,000</u>
Total current assets	\$3,064,000	\$2,270,000
Net fixed assets	<u>6,000,000</u>	<u>5,600,000</u>
Total assets	<u>\$9,064,000</u>	<u>\$7,870,000</u>
 <u>Liabilities and equity:</u>		
Accounts payable	\$1,400,000	\$1,090,000
Notes payable	<u>1,600,000</u>	<u>1,800,000</u>
Total current liabilities	<u>\$3,000,000</u>	<u>\$2,890,000</u>
Long-term debt	2,400,000	2,400,000
Common stock	3,000,000	2,000,000
Retained earnings	<u>664,000</u>	<u>580,000</u>
Total common equity	<u>\$3,664,000</u>	<u>\$2,580,000</u>
Total liabilities and equity	<u>\$9,064,000</u>	<u>\$7,870,000</u>

Wolken has never paid a dividend on its common stock, and it issued \$2,400,000 of 10-year non-callable, long-term debt in 2005. As of the end of 2006, none of the principal on this debt had been repaid. Assume that the company's sales in 2005 and 2006 were the same. Which of the following statements must be CORRECT?

- a. Wolken increased its short-term bank debt in 2006.
 - b. Wolken issued long-term debt in 2006.
 - c. Wolken issued new common stock in 2006.
 - d. Wolken repurchased some common stock in 2006.
 - e. Wolken had negative net income in 2006.
- _____ 22. Hunter Manufacturing Inc.'s December 31, 2006, balance sheet showed total common equity of \$2,050,000 and 100,000 shares of stock outstanding. During 2007, Hunter had \$250,000 of net income, and it paid out \$100,000 as dividends. What was the book value per share at 12/31/07, assuming that Hunter neither issued nor retired any common stock during 2007?
- a. \$20.90
 - b. \$22.00
 - c. \$23.10
 - d. \$24.26
 - e. \$25.47

- _____ 23. Companies generate income from their "regular" operations and from other sources like interest earned on the securities they hold, which is called non-operating income. Lindley Textiles recently reported \$12,500 of sales, \$7,250 of operating costs other than depreciation, and \$1,000 of depreciation. The company had no amortization charges and no non-operating income. It had \$8,000 of bonds outstanding that carry a 7.5% interest rate, and its federal-plus-state income tax rate was 40%. How much was Lindley's operating income, or EBIT?
- \$3,462
 - \$3,644
 - \$3,836
 - \$4,038
 - \$4,250
- _____ 24. Meric Mining Inc. recently reported \$15,000 of sales, \$7,500 of operating costs other than depreciation, and \$1,200 of depreciation. The company had no amortization charges, it had outstanding \$6,500 of bonds that carry a 6.25% interest rate, and its federal-plus-state income tax rate was 35%. How much was the firm's net income after taxes? Meric uses the same depreciation expense for tax and stockholder reporting purposes.
- \$3,284.55
 - \$3,457.42
 - \$3,639.39
 - \$3,830.94
 - \$4,022.48
- _____ 25. EP Enterprises has the following income statement. How much net operating profit after taxes (NOPAT) does the firm have?

Sales	\$1,800.00
Costs	1,400.00
Depreciation	<u>250.00</u>
EBIT	\$ 150.00
Interest expense	<u>70.00</u>
EBT	\$ 80.00
Taxes (40%)	<u>32.00</u>
Net income	<u><u>\$ 48.00</u></u>

- \$81.23
 - \$85.50
 - \$90.00
 - \$94.50
 - \$99.23
- _____ 26. Tibbs Inc. had the following data for the year ending 12/31/06: Net income = \$300; Net operating profit after taxes (NOPAT) = \$400; Total assets = \$2,500; Short-term investments = \$200; Stockholders' equity = \$1,800; Total debt = \$700; and Total operating capital = \$2,300. What was its return on invested capital (ROIC)?
- 14.91%
 - 15.70%
 - 16.52%
 - 17.39%
 - 18.26%
- _____ 27. Jefferson City Computers has developed a forecasting model to estimate its AFN for the upcoming year. All else being equal, which of the following factors is most likely to lead to an increase of the additional funds needed (AFN)?
- A sharp increase in its forecasted sales.
 - A sharp reduction in its forecasted sales.

- c. The company reduces its dividend payout ratio.
 - d. The company switches its materials purchases to a supplier that sells on terms of 1/5, net 90, from a supplier whose terms are 3/15, net 35.
 - e. The company discovers that it has excess capacity in its fixed assets.
- _____ 28. The capital intensity ratio is generally defined as follows:
- a. Sales divided by total assets, i.e., the total assets turnover ratio.
 - b. The percentage of liabilities that increase spontaneously as a percentage of sales.
 - c. The ratio of sales to current assets.
 - d. The ratio of current assets to sales.
 - e. The amount of assets required per dollar of sales, or A^*/S_0 .
- _____ 29. Spontaneously generated funds are generally defined as follows:
- a. The amount of assets required per dollar of sales.
 - b. A forecasting approach in which the forecasted percentage of sales for each item is held constant.
 - c. Funds that a firm must raise externally through borrowing or by selling new common or preferred stock.
 - d. Funds that are obtained automatically from normal operations, and they include spontaneous increases in accounts payable and accruals, plus additions to retained earnings.
 - e. The amount of cash raised in a given year minus the amount of cash needed to finance the additional capital expenditures and working capital needed to support the firm's growth.
- _____ 30. Which of the following statements is CORRECT?
- a. Since accounts payable and accrued liabilities must eventually be paid off, as these accounts increase, AFN as calculated by the AFN equation must also increase.
 - b. Suppose a firm is operating its fixed assets at below 100% of capacity, but it has no excess current assets. Based on the AFN equation, its AFN will be larger than if it had been operating with excess capacity in both fixed and current assets.
 - c. If a firm retains all of its earnings, then it cannot require any additional funds to support sales growth.
 - d. Additional funds needed (AFN) are typically raised using a combination of notes payable, long-term debt, and common stock. Such funds are non-spontaneous in the sense that they require explicit financing decisions to obtain them.
 - e. If a firm has a positive free cash flow, then it must have either a zero or a negative AFN.
- _____ 31. Kamath-Meier Corporation's CFO uses this equation, which was developed by regressing inventories on sales over the past 5 years, to forecast inventory requirements: $\text{Inventories} = \$22.0 + 0.125(\text{Sales})$. The company expects sales of \$400 million during the current year, and it expects sales to grow by 30% next year. What is the inventory forecast for next year? All dollars are in millions.
- a. \$74.6
 - b. \$78.5
 - c. \$82.7
 - d. \$87.0
 - e. \$91.4
- _____ 32. Last year Wei Guan Inc. had \$350 million of sales, and it had \$270 million of fixed assets that were used at 65% of capacity. In millions, by how much could Wei Guan's sales increase before it is required to increase its fixed assets?
- a. \$170.1
 - b. \$179.0
 - c. \$188.5
 - d. \$197.9
 - e. \$207.8

33. Clayton Industries is planning its operations for next year, and Ronnie Clayton, the CEO, wants you to forecast the firm's additional funds needed (AFN). Data for use in your forecast are shown below. Based on the AFN equation, what is the AFN for the coming year? Dollars are in millions.

Last year's sales = S_0	\$350	Last year's accounts payable	\$40
Sales growth rate = g	30%	Last year's notes payable (to bank)	\$50
Last year's total assets = A_0	\$500	Last year's accruals	\$30
Last year's profit margin = M	5%	Target payout ratio	60%

- a. \$102.8
- b. \$108.2
- c. \$113.9
- d. \$119.9
- e. \$125.9

TRUE/FALSE

- | | | | |
|---|--------|-----------------------------|--|
| 1. ANS: T | PTS: 1 | DIF: Easy | TOP: (1.2) Partnership |
| 2. ANS: T | PTS: 1 | DIF: Easy | TOP: (1.10) Stock market transactions |
| 3. ANS: T | | | |
| Work out the numbers with a calculator: | | | |
| PV | 1000 | $FV_A =$ | \$1,710.34 |
| Rate on A | 5% | $2 * FV_A =$ | \$3,420.68 |
| Rate on B | 12% | $FV_B =$ | \$3,478.55 |
| Years | 11 | $FV_B > 2 * FV_A$, so TRUE | |
| | PTS: 1 | DIF: Medium | TOP: (2.2) Comparative compounding |
| 4. ANS: F | PTS: 1 | DIF: Medium | TOP: (2.17) Amortization |
| 5. ANS: F | PTS: 1 | DIF: Easy | TOP: (3.2) Retained earnings versus cash |
| 6. ANS: T | PTS: 1 | DIF: Medium | TOP: (3.6) Statement of cash flows |
| 7. ANS: T | PTS: 1 | DIF: Easy | TOP: (14.2) Pro forma statements |
| 8. ANS: T | PTS: 1 | DIF: Medium | TOP: (14.3) Capital intensity ratio |

MULTIPLE CHOICE

- | | | | |
|---|-----------------|-------------|-----------------------|
| 9. ANS: A | PTS: 1 | DIF: Easy | OBJ: TYPE: Conceptual |
| TOP: (1.2) Firm organization | | | |
| 10. ANS: C | PTS: 1 | DIF: Easy | OBJ: TYPE: Conceptual |
| TOP: (1.2) Corporate form of organization | | | |
| 11. ANS: B | PTS: 1 | DIF: Medium | OBJ: TYPE: Conceptual |
| TOP: (1.2) Partnership form of organization | | | |
| 12. ANS: D | PTS: 1 | DIF: Medium | OBJ: TYPE: Conceptual |
| TOP: (1.3) Corporate goals and control | | | |
| 13. ANS: B | PTS: 1 | DIF: Easy | OBJ: TYPE: Conceptual |
| TOP: (2.3) Effects of factors on PVs | | | |
| 14. ANS: C | | | |
| N | 5 | | |
| I/YR | 6.0% | | |
| PV | \$225.00 | | |
| PMT | \$0.00 | | |
| FV | \$301.10 | | |
| | PTS: 1 | DIF: Easy | OBJ: TYPE: Problems |
| TOP: (2.2) FV of a lump sum | | | |
| 15. ANS: D | | | |
| I/YR | 9.0% | | |
| PV | \$2.50 | | |
| PMT | \$0 | | |
| FV | \$5.00 | | |
| N | 8.04 | | |

PTS: 1 DIF: Easy OBJ: TYPE: Problems
 TOP: (2.5) Number of periods

16. ANS: D

N 25
 I/YR 6.25%
 PMT \$65,000
 FV \$0.00
PV \$862,261.42

PTS: 1 DIF: Easy OBJ: TYPE: Problems
 TOP: (2.9) PV of an annuity due

17. ANS: C

I/YR = 12.0%

	0	1	2	3	4
CFs:	\$0	\$1,500	\$3,000	\$4,500	\$6,000
PV of CFs:	\$0	\$1,339	\$2,392	\$3,203	\$3,813

PV = \$10,746.99 Found using the Excel NPV function
PV = \$10,746.99 Found by summing individual PVs.
PV = \$10,746.99 Found using the calculator NPV key.

PTS: 1 DIF: Easy OBJ: TYPE: Problems
 TOP: (2.12) PV of an uneven cash flow stream

18. ANS: C

	0	1	2	3	4	5
CFs:	-\$1,000	\$75	\$75	\$75	\$75	\$75
						\$1,000
	-\$1,000	\$75	\$75	\$75	\$75	\$1,075

I/YR 7.50% I is the discount rate that causes the PV of the inflows to equal the initial negative CF, and is found with Excel's IRR function or by inputting the CFs into a calculator and pressing the IRR key.

PTS: 1 DIF: Medium OBJ: TYPE: Problems
 TOP: (2.14) Interest rate built into uneven CF stream

19. ANS: E

Interest payment: \$250.00

	0	1	2	3	4
CFs:	10,000.00	-250.00	-250.00	-250.00	-250.00
					-10,000.00
	10,000.00	-250.00	-250.00	-250.00	-10,250.00

IRR (quarterly) = 2.50%
 Annual effective rate = **10.38%** vs. nominal rate = 10.00%

PTS: 1 DIF: Medium OBJ: TYPE: Problems

TOP: (2.15) Nominal rate vs. EFF%
 20. ANS: C PTS: 1 DIF: Easy OBJ: TYPE: Conceptual
 TOP: (3.2) Balance sheet

21. ANS: C PTS: 1 DIF: Medium OBJ: TYPE: Conceptual
 TOP: (3.2) Balance sheet

22. ANS: B
 12/31/06 common equity \$2,050,000
 2007 net income \$250,000
 2007 dividends \$100,000
 2007 addition to retained earnings \$150,000
 12/31/07 common equity \$2,200,000
 Shares outstanding 100,000
 12/31/07 BVPS **\$22.00**

PTS: 1 DIF: Easy OBJ: TYPE: Problems
 TOP: (3.2) Balance sheet: change in BVPS from RE addition

23. ANS: E
 Sales \$12,500
 Operating costs excluding depr'n \$7,250
 Depreciation \$1,000
 Operating income (EBIT) **\$4,250**

PTS: 1 DIF: Easy OBJ: TYPE: Problems
 TOP: (3.3) Income statement: EBIT

24. ANS: D
 Bonds \$6,500
 Interest rate 6.25%
 Tax rate 35%
 Sales \$15,000
 Operating costs excluding depr'n \$7,500
 Depreciation \$1,200
 Operating income (EBIT) \$6,300.00
 Interest charges -\$406.25
 Taxable income \$5,893.75
 Taxes -\$2,062.81
 Net income **\$3,830.94**

PTS: 1 DIF: Easy/Medium OBJ: TYPE: Problems
 TOP: (3.3) Income statement: net after-tax income

25. ANS: C
 EBIT \$150.00
 Tax rate 40%
 NOPAT = **\$90.00**

PTS: 1 DIF: Medium OBJ: TYPE: Problems
 TOP: (3.7) Net operating profit after taxes (NOPAT)

26. ANS: D
 NOPAT \$400
 Total operating capital \$2,300

ROIC = NOPAT/Total operating capital
 ROIC = \$400/\$2,300
 ROIC = **17.39%**

PTS: 1 DIF: Medium OBJ: TYPE: Problems
 TOP: (3.7) Return on invested capital (ROIC)

27. ANS: A

Answer a is obviously correct. Also, note that with purchase terms of 1/5 net 90, the nominal cost of non-free trade credit is only 4.28%, whereas with 3/15, net 35, the nominal cost of trade credit is over 56%. Therefore, the firm should have been taking discounts originally, hence should have had few accounts payable, whereas it would probably not take discounts and thus have more accounts payable with the new supplier. That change would lower its AFN.

PTS: 1 DIF: Easy/Medium OBJ: TYPE: Conceptual
 TOP: (14.3) Additional funds needed

28. ANS: E PTS: 1 DIF: Easy/Medium

OBJ: TYPE: Conceptual TOP: (14.3) Capital intensity ratio

29. ANS: D PTS: 1 DIF: Medium OBJ: TYPE: Conceptual

TOP: (14.3) Spontaneously generated funds

30. ANS: D PTS: 1 DIF: Medium/Hard

OBJ: TYPE: Conceptual TOP: (14.3) Additional funds needed

31. ANS: D

Current year's sales	\$400.0
Growth rate	30%
Projected Sales	\$520.0

Required inventories	= \$22.0 + 0.125 × Projected Sales
	= \$22.0 + 0.125 × \$520.0
	= \$87.0

PTS: 1 DIF: Easy OBJ: TYPE: Problems
 TOP: (14.4) Forecasting inventories--regression analysis

32. ANS: C

Sales	\$350
Fixed assets (not used in calculations)	\$270
% of capacity utilized	65%

Sales at full capacity = Actual sales / % of capacity used = \$538

Additional sales without adding FA = full capacity sales – actual sales = **\$188.5**

PTS: 1 DIF: Medium OBJ: TYPE: Problems
 TOP: (14.5) Excess capacity and sales growth

33. ANS: D

Last year's sales = S_0	\$350
Sales growth rate = g	30%
Forecasted sales = $S_0 \times (1 + g)$	\$455
ΔS = change in sales = $S_1 - S_0 = S_0 \times g$	\$105
Last year's total assets = $A_0 = A^*$ since full capacity	\$500
Forecasted total assets = $A_1 = A_0 \times (1 + g)$	\$650
Last year's accounts payable	\$40

Last year's notes payable. Not spontaneous, so does not enter AFN calculation	\$50
Last year's accruals	\$30
L* = payables + accruals	\$70
Profit margin = M	5.0%
Target payout ratio	60.0%
Retention ratio = (1 – Payout)	40.0%

$$\begin{aligned}
 \text{AFN} &= (A^*/S_0)\Delta S - (L^*/S_0)\Delta S - \text{Margin} \times S_1 \times (1 - \text{Payout}) \\
 &= \$150 - \$21 - \$9.1 = \mathbf{\$119.9}
 \end{aligned}$$

PTS: 1 DIF: Medium/Hard OBJ: TYPE: Problems
TOP: (14.3) Additional funds needed--positive AFN