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FIN 301 –Exam 1 – Practice Exam Solutions

1. B – 9.49%

$$\text{ROE} = \text{Net income} / \text{Total equity}$$

We are not given net income; however, we know that the profit margin is 4%. We can use the profit margin equation to solve for net income.

$$\text{Profit margin} = \text{Net income} / \text{Sales}$$

$$\text{Net income} = \text{Profit margin} \times \text{Sales}$$

$$\text{Net income} = 4\% \times \$925,000$$

$$\text{Net income} = \$37,000$$

Now we can use the accounting equation to solve for total equity.

$$\text{Total assets} = \text{Total debt} + \text{Total equity}$$

$$\$610,000 = \$220,000 + \text{Total equity}$$

$$\text{Total equity} = \$390,000$$

$$\text{ROE} = \$37,000 / \$390,000$$

$$\text{ROE} = 0.0949$$

$$\text{ROE} = 9.49\%$$

2. A – \$80,473

Equation:

$$\text{FV} = \text{PV} * (1 + r)^t$$

$$\text{FV} = \$20,000 * (1 + 0.0475)^{30}$$

$$\text{FV} = \$80,473$$

Financial Calculator:

N	I	PV	PMT	FV
30	4.75	-20,000	0	CMPT

$$\text{FV} = \$80,473$$

3. C – \$126,300

First, we need to use the information provided to solve for the company's net income.

Sales	\$990,000
–Costs	\$410,000
–Depreciation	\$59,000
EBIT	<u>\$521,000</u>
–Interest	\$51,000
EBT	<u>\$470,000</u>
–Taxes (21%)	\$98,700
Net Income	<u><u>\$371,300</u></u>

Addition to retained earnings = Net income – Dividends paid

Addition to retained earnings = \$371,300 – \$245,000

Addition to retained earnings = \$126,300

4. C – Sales

All items on a common-size income statement are computed as a percent of sales. The common-size income statement tells you what percent of sales dollars goes toward each item.

5. C – \$74,330

The first step is to create an income statement using the information provided. We can then plug the values from the income statement into the OCF equation.

$$\text{OCF} = \text{EBIT} + \text{Depreciation} - \text{Taxes}$$

Sales	\$157,000
–Costs	\$66,500
–Depreciation	\$9,500
EBIT	\$81,000
–Interest	\$4,000
EBT	\$77,000
–Taxes (21%)	\$16,170
Net Income	\$60,830

EBIT	\$81,000
+Depreciation	\$9,500
–Taxes	\$16,170
OCF	\$74,330

6. A – 8.13 years

We will need to use the financial calculator to solve for N. You are not given values for PV or FV in the problem; however, you know that you want to “double your money.” We can solve these problems by making up values for PV and FV. We will use \$1 for PV and \$2 for FV; however, you can use any values you would like as long as FV is double PV.

It is also important that you input PV and FV with opposite signs because they are cash flows moving in opposite directions. If PV and FV have the same sign, you will get an error message when solving for N.

N	I	PV	PMT	FV
CMPT	8.9	–1	0	2

$$N = 8.13$$

7. B – \$66 million

In this problem, Year 1 represents our actual figures, and Year 2 represents our projected figures based on a 25% growth rate and the assumptions provided in the problem. In some problems, we will only be given the actual figures in Year 1, and we will need to calculate the projected figures in Year 2. However, these calculations have already been done for us in this problem.

To determine the amount of external financing needed (EFN), we need to look at the difference between our Total Assets in Year 2 and our Total Liabilities/Equity in Year 2. We can immediately see that our balance sheet does not balance because our Total Assets exceed our Total Liabilities/Equity. This means we will require external financing to support the 25% increase in sales.

$$\text{EFN} = \text{Total assets} - \text{Total liabilities/equity}$$

$$\text{EFN} = \$730\text{m} - \$664\text{m}$$

$$\text{EFN} = \$66\text{m}$$

8. A – 12.31%

**Always use Year 1 figures when solving for internal growth rate.** In this problem, Year 1 represents our actual figures, and Year 2 represents our projected figures based on a 25% growth rate and the assumptions provided in the problem. You need to use Year 1 to find the internal growth rate, which is the maximum growth rate a firm can achieve without external financing of any kind.

$$\text{Internal growth rate (IGR)} = \frac{ROA \times b}{1 - (ROA \times b)}$$

$$ROA = \frac{\text{Net income}}{\text{Total assets}} = \frac{\$84\text{m}}{\$584\text{m}} = 0.14384$$

$$\text{Retention ratio (b)} = \frac{\text{Addition to Retained Earnings}}{\text{Net Income}} = \frac{\$64\text{m}}{\$84\text{m}} = 0.7619$$

$$\text{Internal growth rate (IGR)} = \frac{0.14384 \times 0.7619}{1 - (0.14384 \times 0.7619)} = 0.1231 = 12.31\%$$

9. A – 27.12%

**Always use Year 1 figures when solving for sustainable growth rate.** In this problem, Year 1 represents our actual figures, and Year 2 represents our projected figures based on a 25% growth rate and the assumptions provided in the problem. You need to use Year 1 to find the sustainable growth rate, which is the maximum growth rate a firm can achieve without equity financing (taking on debt is ok) while maintaining the same debt/equity ratio.

$$\text{Sustainable growth rate (SGR)} = \frac{ROE \times b}{1 - (ROE \times b)}$$

$$ROE = \frac{\text{Net income}}{\text{Total equity}} = \frac{\$84m}{\$300m} = 0.28$$

$$\text{Retention ratio (b)} = \frac{\text{Addition to Retained Earnings}}{\text{Net Income}} = \frac{\$64m}{\$84m} = 0.7619$$

$$\text{Sustainable growth rate (SGR)} = \frac{0.28 \times 0.7619}{1 - (0.28 \times 0.7619)} = 0.2712 = 27.12\%$$

10. C – Capital budgeting, net working capital, capital structure

11. E – Marginal; average

12. A – EAR will increase. EAR increases as compounding becomes more frequent.

13. C – \$30,600

Total assets = Total liabilities + Shareholders' equity  
(\$6,300 + \$42,100) = (\$3,800 + \$14,000) + Shareholders' equity  
\$48,400 = \$17,800 + Shareholders' equity  
Shareholders' equity = \$30,600

14. A – \$2,500

NWC = Current assets – Current liabilities  
NWC = \$6,300 – \$3,800  
NWC = \$2,500

15. C – Maximize the current market value per share of the firm's stock

16. C – \$411 million

Operating cash flow (OCF) = Earnings before interest and taxes (EBIT) + Depreciation expense – Taxes  
2020 Operating cash flow (OCF) = \$397m + \$102m – \$88m  
2020 Operating cash flow (OCF) = \$411m

17. B – \$402 million

Net capital spending (NCS) = End Net Fixed Assets (ENFA) – Beg Net Fixed Assets (BNFA) + Depreciation  
2020 Net capital spending (NCS) = \$1,951m – \$1,651m + \$102m  
2020 Net capital spending (NCS) = \$402m

18. A – \$198 million

Change in net working capital (CNWC) = End net working capital (ENWC) – Beg net working capital (BNWC)

Net working capital = Current assets – Current liabilities  
2019 NWC = \$967m – \$595m = \$372m  
2020 NWC = \$1,394m – 824m = \$570m

2020 Change in net working capital (CNWC) = \$570m – \$372m  
2020 Change in net working capital (CNWC) = \$198m

19. B – Negative \$189 million

Cash flow from assets = Operating cash flow (OCF) – Net capital spending (NCS) – Change in net working capital (CNWC)  
2020 Cash flow from assets = \$411m – \$402m – \$198m  
2020 Cash flow from assets = –\$189m

20. C – 1.69 times

2020 Current ratio = 2020 Current assets / 2020 Current liabilities  
2020 Current ratio = \$1,394m / \$824m  
2020 Current ratio = 1.69 times

21. B – 0.87 times

2019 Total debt/equity ratio = 2019 Total debt / 2019 Total equity

2019 Total debt = \$595m + \$625m = \$1,220m

2019 Total equity = \$651m + \$747m = \$1,398m

2019 Total debt/equity ratio = \$1,220m / \$1,398m  
2019 Total debt/equity ratio = 0.87 times

22. B – \$5,180

We will need to use the financial calculator to solve for the value of this annuity (PMT).

<b>N</b>	<b>I</b>	<b>PV</b>	<b>PMT</b>	<b>FV</b>
15	8.9	-42,000	CMPT	0

PMT = 5,180

23. B – 16.26 years

We will need to use the financial calculator to solve for N. You are not given values for PV or FV in the problem; however, you know that you want to “quadruple your money.” We can solve these problems by making up values for PV and FV. We will use \$1 for PV and \$4 for FV; however, you can use any values you would like as long as FV is quadruple PV.

It is also important that you input PV and FV with opposite signs because they are cash flows moving in opposite directions. If PV and FV have the same sign, you will get an error message when solving for N.

<b>N</b>	<b>I</b>	<b>PV</b>	<b>PMT</b>	<b>FV</b>
CMPT	8.9	-1	0	4

N = 16.26

24. E – The mix of long-term debt and equity of a company

25. D – Total asset turnover

26. D – 43.62 days

Days' sales in receivables = 365 / Receivables turnover

Receivables turnover = Sales / Accounts receivable

Receivables turnover = \$820,000 / \$98,000

Receivables turnover = 8.367 times

Days' sales in receivables = 365 / 8.367

Days' sales in receivables = 43.62 days

27. C – 8.10%

We know that we are dealing with a perpetuity in this problem because the insurance company is making a set payment of \$66,000 per year forever. We can use the perpetuity equation to solve for the interest rate (r) that would make this a fair deal.

$$\begin{aligned}PV &= C / r \\ \$815,000 &= \$66,000 / r \\ r &= \$66,000 / \$815,000 \\ r &= 8.10\%\end{aligned}$$

28. B – \$6,093

We need to solve for the amount of the annuity payment (PMT). We know we are dealing with an annuity because Evan is making a set payment for a set period of time. It is best to use the financial calculator when solving for the amount of an annuity payment.

Financial Calculator:

N	I	PV	PMT	FV
15	3.2	0	CMPT	-115,000

$$PMT = 6,093$$

29. C – 3.04 times

$$\begin{aligned}\text{Enterprise value} &= \text{Market value of stock} + \text{Debt} - \text{Cash} \\ \text{Enterprise value} &= \$475,000 + \$112,000 - \$33,000 \\ \text{Enterprise value} &= \$554,000\end{aligned}$$

$$\begin{aligned}\text{EBITDA} &= \text{EBIT} + \text{Depreciation and Amortization} \\ \text{EBITDA} &= \$69,000 + \$113,000 \\ \text{EBITDA} &= \$182,000\end{aligned}$$

$$\begin{aligned}\text{EV-EBITDA} &= \text{EV} / \text{EBITDA} \\ \text{EV-EBITDA} &= \$554,000 / \$182,000 \\ \text{EV-EBITDA} &= 3.04 \text{ times}\end{aligned}$$

30. A – 11.94%

$$\begin{aligned}\text{ROE} &= \text{Profit margin} \times \text{Total asset turnover} \times \text{Equity multiplier} \\ \text{ROE} &= 0.0429 \times 1.59 \times 1.75 \\ \text{ROE} &= 0.1194 \\ \text{ROE} &= 11.94\%\end{aligned}$$



31. D – 1.50 times

Current ratio = Current assets / Current liabilities

We are given the value of current liabilities; however, we are not given the value of current assets. Consequently, we will need to use the net working capital (NWC) equation to find the value of current assets.

$NWC = \text{Current assets} - \text{Current liabilities}$

$\$56,000 = \text{Current assets} - \$112,000$

Current assets = \$168,000

Current ratio =  $\$168,000 / \$112,000$

Current ratio = 1.50 times

32. A – 0.65 times

Quick ratio =  $(\text{Current assets} - \text{Inventory}) / \text{Current liabilities}$

Quick ratio =  $(\$168,000 - \$95,000) / \$112,000$

Quick ratio = 0.65 times

33. A – The market for the exchange of securities that have already been issued by a company.

34. D – \$420,000

Net capital spending (NCS) = End Net Fixed Assets (ENFA) – Beg Net Fixed Assets (BNFA) + Depreciation

Net capital spending (NCS) =  $\$700,000 - \$355,000 + \$75,000$

Net capital spending (NCS) = \$420,000

35. B – Positive \$1,900

Change in net working capital (CNWC) = End net working capital (ENWC) – Beg net working capital (BNWC)

Change in net working capital (CNWC) = 2021 net working capital – 2020 net working capital

Net working capital = Current assets – Current liabilities

2020 Net working capital =  $\$44,800 - \$22,100 = \$22,700$

2021 Net working capital =  $\$38,900 - \$14,300 = \$24,600$

Change in net working capital (CNWC) =  $\$24,600 - \$22,700$

Change in net working capital (CNWC) = \$1,900

36. C – 8.0%

We will need to use the financial calculator to solve for I. You are not given values for PV or FV in the problem; however, you know that you want to “double your money.” We can solve these problems by making up values for PV and FV. We will use \$1 for PV and \$2 for FV; however, you can use any values you would like as long as FV is double PV.

It is also important that you input PV and FV with opposite signs because they are cash flows moving in opposite directions. If PV and FV have the same sign, you will get an error message when solving for I.

N	I	PV	PMT	FV
9	CMPT	-1	0	2

I = 8.0%

37. A – \$92,793

Financial Calculator:

N	I	PV	PMT	FV
20	4.1	-1,250,000	CMPT	0

PMT = \$92,793

Jenny borrowed \$1,250,000 to purchase a home. This means that she received \$1,250,000 today. The problem says that she wants to pay off this loan in 20 years. The PV is \$1,250,000 because it is the amount Jenny received today. The FV is \$0 because at the end of 20 years she will have paid off the loan, so she won't owe any more money.

This problem wants you to determine the amount of the payments that Jenny will need to make so that her loan will have a value of \$0 at the end of 20 years based on a 4.10% interest rate. You can't just divide \$1,250,000 by 20 to get the answer because Jenny will have to make interest payments each year as well. If Jenny pays \$92,793 at the end of each year for 20 years, she will have the loan paid off at the end of 20 years.

38. B – \$25,000

Cash flow to creditors = Interest expense – Net new borrowing

Net new borrowing = 2021 Long-term debt – 2020 Long-term debt

Net new borrowing = \$690,000 – \$660,000

Net new borrowing = \$30,000

Cash flow to creditors = \$55,000 – \$30,000

Cash flow to creditors = \$25,000

39. A – \$15,000

Cash flow to stockholders = Dividends paid – Net new equity raised

Net new equity raised = 2021 Total equity – 2020 Total equity

Total equity = Common stock + Additional paid-in surplus

2020 Total equity = \$62,000 + \$260,000 = \$322,000

2021 Total equity = \$73,000 + \$322,000 = \$395,000

Net new equity raised = \$395,000 – \$322,000

Net new equity raised = \$73,000

Cash flow to stockholders = \$88,000 – \$73,000

Cash flow to stockholders = \$15,000

40. A – For each \$1 of sales generated, the company has net income of twenty-three cents.

41. D – 98.92 days

Days payables outstanding (DPO) = 365 / Payables turnover

Payables turnover = Cost of goods sold / Accounts payable

Payables turnover = \$155,000 / \$42,000

Payables turnover = 3.69 times

Days payables outstanding (DPO) = 365 / 3.69

Days payables outstanding (DPO) = 98.92 days

42. B – \$7,000

First, we will need to construct a pro forma income statement where sales and costs increase by 30%.

<b><u>Income Statement</u></b>	
Sales	\$78,000
Costs	<u>\$65,000</u>
Net Income	<u><u>\$13,000</u></u>

We are told that our company will pay out half of the net income in the form of cash dividends.

$$\text{Dividends paid} = \$13,000 / 2 = \$6,500$$

Addition to retained earnings = Net income – Dividends paid

$$\text{Addition to retained earnings} = \$13,000 - \$6,500$$

$$\text{Addition to retained earnings} = \$6,500$$

Now that we know the addition to retained earnings, we have everything we need to construct our pro forma balance sheet. We are told that assets will increase by 30%; however, debt and equity do not increase by 30%. Equity will increase by \$6,500 because of the addition to retained earnings.

<b><u>Balance Sheet</u></b>			
Assets	\$58,500	Debt	\$17,000
		Equity	<u>\$28,000 + \$6,500</u>
Total	<u><u>\$58,500</u></u>	Total	<u><u>\$51,500</u></u>

We know that increasing sales by 30% will require external financing because total assets are greater than total liabilities and equity.

$$\text{External financing needed (EFN)} = \$58,500 - \$51,500$$

$$\text{External financing needed (EFN)} = \$7,000$$

43. A – 2.49%

We will need to use the financial calculator to solve for I. The PV and FV values need to have opposite signs when solving for I.

N	I	PV	PMT	FV
19	CMPT	-15,600	0	24,900

$$I = 2.49\%$$

44. C – \$15,656

The first step to solving this problem is finding the effective annual rate for the account. You know that you need to find the effective annual rate because interest is compounded monthly.

$$\text{Effective annual rate (EAR)} = (1 + (\text{Annual interest rate} / m))^m - 1$$
$$\text{Effective annual rate (EAR)} = (1 + (.09 / 12))^{12} - 1 = 0.0938 = 9.38\%$$

Now that you know the effective annual rate, you can use the FV equation or the financial calculator to find the value of the account 5 years from now.

Equation:

$$FV = PV * (1 + r)^t$$

$$FV = \$10,000 * (1 + 0.0938)^5 = \$15,656$$

Financial Calculator:

N	I	PV	PMT	FV
5	9.38	-10,000	0	CMPT

$$FV = \$15,656$$

45. B – \$5,180

It is best to use the financial calculator when solving for the amount of an annuity payment (PMT).

N	I	PV	PMT	FV
15	8.9	-42,000	CMPT	0

$$PMT = \$5,180$$

46. D – Articles of incorporation

47. B – Market value always exceeds book value is a false statement. There are times when the market value of an asset can be less than its book value. For example, a piece of property could lose value after it is purchased. The book value would be the amount paid for the property, and the market value would be the current value of the property. In this case, the market value would be less than the book value because the property lost value after purchasing it.

48. A – 0.49 times

At first, it seems we are not given the information we need to solve for the debt-equity ratio; however, we need to remember that the debt-equity ratio is the equity multiplier minus one. We are given everything we need to solve for the equity multiplier using the DuPont Identity.

ROE = Profit margin x Total asset turnover x Equity multiplier  
 $0.1945 = 0.078 \times 1.67 \times \text{Equity multiplier}$   
Equity multiplier = 1.49

Debt-equity ratio = Equity multiplier – 1  
Debt-equity ratio =  $1.49 - 1$   
Debt-equity ratio = 0.49 times

49. C – 6.48%

$$\text{Internal growth rate (IGR)} = \frac{ROA \times b}{1 - (ROA \times b)}$$

ROA = Net income / Total assets  
ROA =  $\$94,800 / \$935,000$   
ROA = 0.10139

Retention ratio (b) = 1 – Dividend payout ratio  
Retention ratio (b) =  $1 - 0.40 = 0.60$

$$\text{Internal growth rate (IGR)} = \frac{0.10139 \times 0.6}{1 - (0.10139 \times 0.6)} = 0.0648 = 6.48\%$$

50. 23.46 Years

It is best to use the financial row of the calculator to solve for the number of periods. Make sure to note that PV and FV need to have opposite signs because they are cash flows moving in opposite directions. In the solution below, PV is negative and FV is positive; however, you get the same answer if you make PV positive and FV negative. You will get an error message if PV and FV have the same sign.

N	I	PV	PMT	FV
CMPT	7	-2,300	0	11,250

N = 23.46

51. A – 11.03%

When solving for the interest rate, it is best to use the financial calculator. You will need to enter opposite signs for PV and FV because the cash flows are moving in opposite directions. In the solution below, we made PV positive and FV negative; however, you get the same answer if PV is negative and FV is positive. You will get an error message if both PV and FV have the same sign.

N	I	PV	PMT	FV
30	CMPT	65,000	0	-1,500,000

I = 11.03%

52. A – Sole proprietorship

Sole proprietorships are businesses owned by one individual who faces unlimited liability. Partnerships are businesses owned by two or more individuals. Unlimited liability is an issue for partnerships as well because general partners face unlimited liability; however, some partnerships have limited partners who are only exposed to limited liability. Limited liability means the most you can lose is the amount you have invested in the business. All owners of a corporation have limited liability.

53. A – 1 year; 2-5 years

54. C – 43.31 days

Days' sales in inventory =  $365 / \text{Inventory turnover}$

Inventory turnover =  $\text{Cost of goods sold} / \text{Inventory}$

Inventory turnover =  $\$7.5\text{m} / \$890,000$

Inventory turnover = 8.427 times

Days' sales in inventory =  $365 / 8.427$

Days' sales in inventory = 43.31 days

55. D – \$283,382

We need to find the future value of the annuity to solve this problem. We know that we are dealing with an annuity because Steve is investing \$3,000 yearly for 30 years. An annuity is a set payment for a set period of time.

Equation:

$$FV_A = C \times \left[ \frac{(1 + r)^t - 1}{r} \right] = \$3,000 \times \left[ \frac{(1 + 0.07)^{30} - 1}{0.07} \right] = \$283,382$$

Financial Calculator:

<b>N</b>	<b>I</b>	<b>PV</b>	<b>PMT</b>	<b>FV</b>
30	7	0	–3,000	CMPT

$$FV = \$283,382$$

56. C – \$17,624

$$\$4,000 / (1.12)^1 = \$3,571.43$$

$$\$5,000 / (1.12)^2 = \$3,985.97$$

$$\$7,000 / (1.12)^3 = \$4,982.46$$

$$\$8,000 / (1.12)^4 = \$5,084.14$$

$$PV = \$17,624$$

Alternatively, we can use the calculator's cash flow register

$$Cf\ 0 = 0$$

$$Cf\ 1 = 4,000$$

$$Cf\ 2 = 5,000$$

$$Cf\ 3 = 7,000$$

$$Cf\ 4 = 8,000$$

$$I = 12$$

$$NPV = \$17,624$$



57. D – \$184,986

Equation:

$$PV = FV / (1 + r)^t$$

$$PV = \$358,000 / (1 + 0.045)^{15}$$

$$PV = \$184,986$$

Financial Calculator:

N	I	PV	PMT	FV
15	4.5	CMPT	0	-358,000

$$PV = \$184,986$$

58. B – \$60,000

In this problem, we are dealing with perpetuity because the investment makes payments every year forever. Consequently, we will use the following equation to find the present value of the perpetuity.

$$PV = \frac{C}{r} = \frac{\$9,000}{0.15} = \$60,000$$

59. D – \$13,355

Equation:

$$PV_A = C \times \left\{ \frac{1 - \left[ \frac{1}{(1 + r)^t} \right]}{r} \right\} = \$3,000 \times \left\{ \frac{1 - \left[ \frac{1}{(1 + 0.04)^5} \right]}{0.04} \right\} = \$13,355$$

Financial Calculator:

N	I	PV	PMT	FV
5	4	CMPT	-3,000	0

$$PV = \$13,355$$

60. A – \$29,435

Equity multiplier = Debt-equity ratio + 1

Equity multiplier = 0.45 + 1

Equity multiplier = 1.45

ROE = ROA x Equity multiplier

ROE = 0.058 x 1.45

ROE = 0.0841

ROE = Net income / Total equity

0.0841 = Net income / \$350,000

Net income = \$29,435

61. C – \$6,391

The first step to this problem is solving for our sustainable growth rate.

$$\text{Sustainable growth rate (SGR)} = \frac{ROE \times b}{1 - (ROE \times b)}$$

$$ROE = \frac{\text{Net income}}{\text{Total equity}} = \frac{\$9,480}{\$98,000} = 0.09673$$

$$\text{Retention ratio (b)} = 1 - \text{Dividend payout ratio} = 1 - 0.3 = 0.7$$

$$\text{Sustainable growth rate (SGR)} = \frac{0.09673 \times 0.7}{1 - (0.09673 \times 0.7)} = 0.07263 = 7.263\%$$

The maximum dollar increase in sales is found by multiplying the sustainable growth rate by our company's current sales of \$88,000.

Maximum sales increase = \$88,000 x 0.07263

Maximum sales increase = \$6,391

62. B – Stock split forecasts

63. D – 19.73%

$$\text{Sustainable growth rate (SGR)} = \frac{ROE \times b}{1 - (ROE \times b)}$$

We will need to use the DuPont identity to solve for ROE.

ROE = Profit margin x Total asset turnover x Equity multiplier

Profit margin = 6.90%

Total asset turnover = 1 / Capital intensity ratio

Total asset turnover = 1 / 0.72

Total asset turnover = 1.3889

Equity multiplier = 1 + Debt-equity ratio

Equity multiplier = 1 + 1.15

Equity multiplier = 2.15

ROE = 0.069 x 1.3889 x 2.15

ROE = 0.206

Dividend payout ratio = \$40,000 / \$200,000

Dividend payout ratio = 0.20

Retention ratio (b) = 1 – 0.20

Retention ratio (b) = 0.80

$$\text{Sustainable growth rate (SGR)} = \frac{0.206 \times 0.8}{1 - (0.206 \times 0.8)} = 0.1973 = 19.73\%$$

64. C – \$1,347,000

Cash flow from assets = Cash flow to creditors + Cash flow to stockholders

Cash flow from assets = \$334,000 + \$155,000

Cash flow from assets = \$489,000

Cash flow from assets = OCF – Net capital spending – Change in net working capital

OCF = Cash flow from assets + Net capital spending + Change in net working capital

OCF = \$489,000 + \$900,000 + –\$42,000

OCF = \$1,347,000

65. B – 22.60%

Taxable Income	\$	202,000.00
0.10 x \$9,875	\$	987.50
.12 x (40,125 – 9,875)	\$	3,630.00
.22 x (85,525 – 40,125)	\$	9,988.00
.24 x (163,300 – 85,525)	\$	18,666.00
.32 x (202,000 – 163,300)	\$	12,384.00
	\$	<hr/> 45,655.50

Average tax rate = \$45,655.50 / \$202,000

Average tax rate = 0.2260

Average tax rate = 22.60%

66. C – 32% because the next dollar Abigail earns will be taxed at 32%.