32 MEASURES OF LEVERAGE

1. Jayco, Inc., sells blue ink for $4.00 a bottle. The ink's variable cost per bottle is $2.00. Ink has fixed cost of $10,000. What is Jayco's breakeven point in units?
   (A) 2,500.
   (B) 5,000.
   (C) 6,000.

2. Which of the following is a key determinant of operating leverage?
   (A) Level and cost of debt.
   (B) The tradeoff between fixed and variable costs.
   (C) The competitive nature of the business.

3. Which of the following statements about leverage is most accurate?
   (A) If the company has no debt outstanding, then its degree of total leverage equals its degree of operating leverage.
   (B) An increase in fixed costs (holding sales and variable costs constant) will reduce the company's degree of operating leverage.
   (C) A decrease in interest expense will increase the company's degree of total leverage.

4. Gordon Cast parts has fixed operating costs of $1.2 million and fixed financing costs of $400,000. If the price per unit is $39 and variable costs are $22 per unit, Gordon's operating breakeven quantity of sales is closest to:
   (A) 54,500.
   (B) 70,600.
   (C) 94,100.

5. For a profitable company, issuing debt in order to retire common stock will most likely.
   (A) Decrease both operating income and net income.
   (B) Increase both the level and variability of return on equity.
   (C) Increase both net income and return on equity.

6. Which of the following best describes a firm with low operating leverage? A large change in:
   (A) The number of units a firm produces and sells result in a similar change in the firm's earnings before interest and taxes.
   (B) Earnings before interest and taxes result in a small change in net income.
   (C) Sales result in a small change in net income.

7. Jayco, Inc. has a division that makes red ink for the accounting industry. The unit has fixed costs of $10,000 per month, and is expected to sell 40,000 bottles of ink per month. If the variable cost per bottle is $2.00 what price must the division charge in order to breakeven?
   (A) $2.25.
   (B) $2.50.
   (C) $2.75.

8. Variability in a firm's operating income is most closely related to its:
   (A) Financial risk.
   (B) Internal risk.
   (C) Business risk.

9. Given the following information on the annual operating results for ArtFrames, a producer of quality metal picture frames:
   - Sales of $3,500,000.
   - Variable costs at 45% of sales.
   - Fixed costs of $1,050,000.
   - Debt interest payments on $750,000 issued at par with an annual 9.0% coupon; market yield is currently 7.0%.

   ArtFrames's degree of operating leverage (DOL) and degree of financial leverage (DFL) are closest to:

	DOL	DFL
(A)	3.00	1.50
(B)	2.20	1.08
(C)	2.20	1.50

10. Wanton's San Y'isidro Co. manufactures custom door knobs for international clients. Average Revenue is $35 per unit, variable costs are $15 per unit, and total costs are $200,000. If sales are 10,000 units, what is the firm's breakeven sales quantity?
   (A) 1,750 units.
   (B) 2,500 units.
   (C) 3,000 units.

11. Annual fixed costs at King Mattress amount to $325,000. The variable cost of raw materials and labor is $120 for the typical mattress. Sales prices for mattresses average $160. How many

Units must King Mattress sell to break even?

(A) 40.

(B) 8,125.

(C) 2,708.

12. All else equal, which of the following statements about operating leverage is least accurate?

(A) Firms with high operating leverage experience greater variance in operating income.

(B) Operating leverage reflects the tradeoff between variable costs and fixed costs.

(C) Lower operating leverage generally results in a higher expected rate of return.

13. An analyst has gathered the following expenditure information for three different firms, each of which has a sales level of $4 million.

Costs for firms under consideration (in millions)			
	Firm A	Firm B	Firm C
Variable Costs	$ 2.00	$ 2.60	$ 2.40
Fixed Cost	$ 1.00	$ 1.30	$ 1.40
Interest expance	$ 0.20	$ 0.00	$ 0.20

(A) Firm C.

(B) Firm A.

(C) Firm B.

14. Annah Korotkin is the sole proprietor of CoverMeUp, a business that designs and sews outdoor clothing for dogs. Each year, she rents a booth at the regional Pet Expo and sells only blankets. Korotkin views the Expo as primarily a marketing tool and is happy to breakeven (that is, cover her booth rental). For the last 3 years, she has sold exactly enough blankets to cover the $750 booth rental fee. This year, she decided to make all blankets for the Expo out of high-tech waterproof/breathable material that is more expensive to produce, but that she believes she can sell for a higher profit margin. Information on the two types of blankets is as follows:

Per Unit	Last Year's (Basic) Blanket	This Year's (New) Blanket
Sales Price	$25	$40
Variable Cost	$20	$33

Assuming that Korotkin remains most interested in covering the booth cost (which has increased to $840), how many more or fewer blankets (new style) does she need to sell to cover the booth cost? To cover this year's booth costs, Korotkin needs to sell:

(A) 30 fewer blankets than last year.

(B) 42 fewer blankets than last year.

(C) 42 more blankets than last year.

15. In the last period, Foster Insold 20,000 units at $31 per unit. Fixed costs were $180,000 and variable costs were $310,000. In the current period, Foster sold 25,000 units. If Foster's variable cost per unit and fixed costs remained unchanged, it would report income for the current period of:
    (A) $130,500.
    (B) $157,000.
    (C) $207,500.

16. Which of the following statements regarding the impact of financial leverage on a company's net income and return on equity (ROE) is most accurate?
    (A) Using financial leverage increases the volatility of ROE for a level of volatility in operating income.
    (B) If a firm has a positive operating profit margin, using financial leverage will always increase ROE.
    (C) Increasing financial leverage increases both risk and potential return of existing bondholders.

17. Which of the following statements about business risk and financial risk is least accurate?
    (A) Business risk is the riskiness of the company's assets if it uses no debt.
    (B) The greater a company's business risk, the higher its optimal debt ratio.
    (C) Factors that affect business risk are demand, sales price, and input price variability.

18. Yangtze Delta High Technology produces multimedia-enabled wireless phones. The factory incurs rent, depreciation, salary, and other fixed costs totaling RMB 10 million per year. Also, the company incurs annual interest of RMB 3 million on debt. Each phone sold by Yangtze Delta sells for RMB 200. The variable cost per phone is RMB 150. Yangtze Delta's operating breakeven quantity of sales is closest to:
    (A) 65,000.
    (B) 260,000.
    (C) 200,000.

19. Nelson, Inc. has fixed financing costs of $3 million, fixed operating costs of $5 million, and variable costs of $2.00 per unit. If the price of Nelson's product is $4.00, Nelson's operating breakeven quantity of sales is:
    (A) 1.0 million units.
    (B) 2.5 million units.
    (C) 4.0 million units.

20. Additional debt should be used in the firm's capital structure if it increases:
    (A) Firm earnings.
    (B) Earnings per share.
    (C) The value of the firm.

21. Operating risk is most likely to increase as a result of:
   (A) An increase in fixed production costs.
   (B) An increase in sales risk.
   (C) Increased variability of costs.

22. Which of the following sources of financing is least likelyto increase a firm's financial risk?
   (A) Fixed-rate debt.
   (B) Common equity.
   (C) Operating leases.

23. Which of the following factors is least likely to affect business risk?
   (A) Operating leverage.
   (B) Demand variability.
   (C) Interest rate variability.

24. Hughes Continental is assessing its business risk. Which of the following factors would least likely be considered in the analysis?
   (A) Debt-equity ratio.
   (B) Input price variability.
   (C) Unit sales levels.

25. During a period of expansion in the economy, compared to firms with lower operating leverage, earnings growth for firms with high operating leverage will be:
   (A) Lower.
   (B) Higher.
   (C) Unaffected.

26. Steven's Bakery produces snack cakes and bread. Listed below are the operating costs for the snack cakes division and the bread division.

	Snack cakes	Bread
Price per package	\$2.00	\$2.50
Variable cost per package	\$1.00	\$1.30
Fixed operating costs	\$25,000	\$30,000
Fixed financing costs	\$10,000	\$10,000

Compared to the snack cakes division, the operating breakeven quantity for the bread division is:
   (A) less.
   (B) Greater.
   (C) The same.

27. FCO, Inc. (FCO) is comparing EBIT forecasts to help determine the impact its capital structure has on net income.

	Expected EBIT	EBIT + 10%
EBIT	$80,000	$88,000
Interest expense	15,000	15,000
EBT	65,000	73,000
Taxes	26,000	29,200
Net income	39,000	43,800
Liabilities	200,000	
Shareholder equity	250,000	
Return on equity	15.60%	

FCO's degree of financial leverage is closest to:
(A) 1.25.
(B) 0.80.
(C) 0.60.

28. First Choice, Inc., sold 40,000 units during its most recent quarter; had fixed operating costs of $70,000, total variable costs of $140,000, and interest expense of $80,000; and charged a price of $7.75 per unit. First Choice's breakeven level of sales, based on these values, is closest to:
(A) 16,500.
(B) 28,000.
(C) 35,000.

29. As financial leverage increases, what will be the impact on the expected rate of return and financial risk?
(A) One will rise while the other falls.
(B) Both will rise.
(C) Both will fall.

30. Business risk is most accurately described as:
(A) Another term for operating risk.
(B) Consisting of both sales risk and operating risk.
(C) Another term for sales risk.

31. If a 10% increase in sales causes earnings per share to increase from $1.00 to $1.50, and if the firm has no debt, then what is its degree of operating leverage?
(A) 5.0.
(B) 4.2.
(C) 4.7.

32. The two major types of risk affecting a firm are best described as:
    (A) Business risk and collection risk.
    (B) Business risk and financial risk.
    (C) Financial risk and cash flow risk.

33. All else equal, a firm's business risk is higher when:
    (A) The firm has low operating leverage.
    (B) Fixed costs are the highest portion of its expense.
    (C) Variable costs are the highest portion of its expense.

34. Which of the following statements regarding leverage is most accurate?
    (A) A firm with low operating leverage has a small proportion of its total costs in fixed costs.
    (B) A firm with high business risk is more likely to increase its use of financial leverage than a firm with low business risk.
    (C) High levels of financial leverage increase business risk while high levels of operating leverage will decrease business risk.

35. The following information reflects the projected operating results for Opstalan, a catalog printer.
    - Sales = \$5.0 million.
    - Variable Costs = 40% of sales.
    - Fixed Costs = \$1.0 million.
    - Interest expense = \$105,000.
    - Tax Rate = 0.0%.

    Opstalan's degree of total leverage (DTL) is closest to:
    (A) 1.41.
    (B) 1.59.
    (C) 2.58.

36. The additional risk a firm's common shareholders must bear when a firm uses fixed cost financing is best described as:
    (A) Financial risk.
    (B) Business risk.
    (C) Operating risk.

37. Stromberg Corporation's sales are \$75,000,000. Fixed costs, including research and development, are \$40,000,000, while variable costs amount to 30% of sales. Stromberg plans an expansion which will generate additional fixed costs of \$15,000,000, decrease variable costs to 25% of sales, and permit sales to increase to \$100,000,000. What is Stromberg's degree of operating leverage at the new projected sales level?
    (A) 3.50.
    (B) 3.75.
    (C) 4.20.

38. Daley Company sells its output for $15 per unit. Daley's variable costs, including taxes, are $10 per unit and its breakeven quantity of sales is 30,000 units. Daley's annual fixed costs are $50,000 for interest and $100,000 for rent. If Daley sells 35,000 units in a year, its net income will be:
    (A) $25,000.
    (B) $35,000.
    (C) $15,000.

39. Myron Jackson is a private equity fund manager specializing in distressed companies. His investment philosophy is based on the principle that capital structure problems can be fixed, but industry characteristics dictate business models. Jackson would most likely be interested in distressed firms with which of the following characteristics?
    (A) High operating risk and high financial risk.
    (B) High operating risk and low financial risk.
    (C) High financial risk and low operating risk.

40. Business risk is best described as resulting from the combined effects of a firm's:
    (A) Operating risk and financial risk.
    (B) Sales risk and operating risk.
    (C) Financial risk and sales risk.

41. Financial leverage magnifies:
    (A) Taxes.
    (B) Earnings per share variability.
    (C) Operating income variability.

42. With sales of $45 million, the operating earnings of Poston Industries are $3.8 million. Fixed operating costs are $4.2 million, net profit margin is 4.5%, and unit variable costs are $35.50. At the current level of sales, Poston's degree of operating leverage is closest to:
    (A) 1.2.
    (B) 1.6.
    (C) 2.1.