21 FREE CASH FLOW VALUATION

1. The ownership perspective implicit in the dividend valuation approach is of:
   (A) a preferred stockholder.
   (B) control.
   (C) a common stockholder.

2. Which of the following is most useful in analyzing firms that have high leverage and high growth?
   (A) Two-stage free cash flow to the firm (FCFF) model.
   (B) Two-stage free cash flow to equity (FCFE) model.
   (C) Stable-growth free cash flow to the firm (FCFF) model.

3. Regarding the statements by Johnson and Nguyen about FCF in 2006:
   (A) only Nguyen is incorrect.
   (B) only Johnson is incorrect.
   (C) both are incorrect.

4. If FCInv equals Fixed Capital Investment and WCInv equals Working Capital Investment, which statement about FCF and its components is least accurate?
   (A) FCFE = (EBIT x (1 – tax rate)) + Depreciation – FCInv – WCInv.
   (B) FCFF = (EBITDA x (1 – tax rate)) + (Depreciation x tax rate) – FCInv - WCInv.
   (C) WCInv is the change in the working capital accounts, excluding cash and short-term borrowings.

5. Given Nguyen's estimate of Country Point's terminal value in 2008, what is the growth assumption she must have used for free cash flow after 2008?
   (A) 3%.
   (B) 7%.
   (C) 9%.

6. The value of beta for Country Point is:
   (A) 1.27.
   (B) 1.00.
   (C) 1.09.

7. In what ways are dividends different from free cashflow to equity (FCFE)?
   (A) Dividends are often viewed as "sticky." Managers are reluctant to radically change the dividend payout policy while FCFE often has immense variability.
   (B) Companies often use FCFE as a signal of positive future growth prospects while dividends are not used for signaling.
   (C) There is no difference. Dividends must equal FCFE.

8. An increase in financial leverage will cause free cash flow to equity (FCFE) to:
   (A) increase in the year the borrowing occurred.
   (B) decrease or increase, depending on its circumstances.
   (C) decrease in the year the borrowing occurred.

9. The difference between free cash flow to equity (FCFE) and free cash flow to the firm (FCFF) is:
   (A) before-tax interest and net borrowing.
   (B) earnings before interest and taxes (EBIT) less taxes.
   (C) after-tax interest and net borrowing.

10. Which of the following statements is least accurate? A firm's free cash flows to equity (FCFE) is the cash available to stockholders after funding:
   (A) debt principal repayments.
   (B) dividend payments.
   (C) capital expenditure requirements.

11. In using FCFE models, the assumption of growth should be:
   (A) independent from the assumptions of other variables.
   (B) only consistent with the assumptions of capital spending and depreciation.
   (C) consistent with assumptions of other variables.

12. Dividends paid out to the shareholders:
   (A) are always equal to free cash flow to equity (FCFE).
   (B) may be higher than free cash flow to equity FCFE.
   (C) are always less than free cash flow to equity (FCFE).

13. If a firm is valued using FCFF, the relevant discount rate is the:
   (A) before-tax weighted average cost of capital.
   (B) before-tax cost of equity.
   (C) after-tax weighted average cost of capital.

14. Assuming that the investment in fixed capital and working capital offset each other, free cash flow to the firm (FCFF) may be proxied by net income if:
    (A) earnings before interest and taxes (EBIT) equals depreciation.
    (B) non-cash charges and interest charges are equal.
    (C) non-cash charges and interest charges are zero.

15. Which of the following items is NOT subtracted from the net income to calculate free cash flow to equity (FCFE)?
    (A) increase in accounts receivable.
    (B) Interest payments to bondholders.
    (C) Increase in fixed assets.

16. Free cash flow to the firm is equal to cash flow from operations minus fixed capital investment:
    (A) minus after-tax interest expense.
    (B) plus after-tax interest expense.
    (C) minus pre-tax interest expense.

17. Calculate the forecasted free cash flow to the firm (FCFF) for 2x12, using the data in Exhibits 1 and 2.
    (A) –89.5.
    (B) –107.5.
    (C) –131.5.

18. Calculate the forecasted free cash flow to equity (FCFE) for 2x12.
    (A) 10.5.
    (B) –9.5.
    (C) –49.5.

19. Regarding the handbook's statements on free cash flow techniques:

	Statement 1	Statement 2
(A)	Correct	Correct
(B)	Incorrect	Correct
(C)	Correct	Incorrect

20. Regarding the handbook's statements on free cash flow techniques:

	Statement 3	Statement 4
(A)	Correct	Correct
(B)	Incorrect	Correct
(C)	Correct	Incorrect

21. The most appropriate model for valuing Fite Inc. is the:
    (A) free cash flow to equity model.
    (B) free cash flow to the firm model.
    (C) dividend discount H-model.

22. Assuming Patrick is correct to use free cash flow to the firm to value Fite Inc.; the value of the firm is closest to:
    (A) 379.
    (B) 412.
    (C) 22.

23. Which of the following types of companies is the two-stage free cash flow to equity (FCFE) model best suited for? Companies:
    (A) with patents or firms in an industry with significant barriers to entry.
    (B) growing at a rate similar to or less than the nominal growth rate of the economy.
    (C) in high growth industries that will face increasing competitive pressures over time, leading to a gradual decline in growth to a stable level.

24. The terminal value in year 6 is closest to:
    (A) $16.86.
    (B) $21.68.
    (C) $25.29.

25. The per-share value Winters should assign to Goliath's equity is closest to:
    (A) $20.24.
    (B) $13.55.
    (C) $16.87.

26. The weighted average cost of capital (WACC) is closest to:
    (A) 10.5%.
    (B) 10.9%.
    (C) 11.1%.

27. The value of the firm, based on the constant growth model, is closest to:
    (A) $153 million.
    (B) $140 million.
    (C) $124 million.

28. What is the most likely reason that you get an extremely low value from the three-stage FCFE model? Capital expenditures are significantly:
    (A) less than depreciation during the high-growth phase.
    (B) higher than depreciation in the stable-growth phase.
    (C) higher than depreciation during the high-growth phase.

29. A firm in stable growth phase should have:
    (A) a required rate of return close to the market rate of return and capital expenditures that are not too large relative to depreciation expense.
    (B) a growth rate higher than that of the economy and a required rate of return that is greater than the market rate of return.
    (C) capital expenditures that are less than the depreciation expense.

30. In the two-stage FCFE model, the required rate of return for calculating terminal value should be:
    (A) equal to the average required rate of return for the industry.
    (B) lower than the required rate of return used for the high-growth phase.
    (C) higher than the required rate of return used for the high-growth phase.

31. Which of the following statements regarding dividends and free cash flow to equity (FCFE) is least accurate?
    (A) FCFE discount models usually result in higher equity values than do dividend discount models (DDMs).
    (B) FCFE can be negative but dividends cannot.
    (C) Required returns are higher in FCFE discount models than they are in dividend discount models, since FCFE is more difficult to estimate.

32. SOX, Inc., expects high growth in the next 4 years before slowing to a stable future growth of 3%. The firm is assumed to pay no dividends in the near future and has the following forecasted free cash flow to equity (FCFE) information on a per share basis in the high-growth period:

	Year 1	Year 2	Year 3	Year 4
FCFE	$3.05	$4.10	$5.24	$6.71

High-growth period assumptions:

- SOX, Inc.'s, target debt ratio is 40% and a beta of 1.3.
- The long-term Treasury Bond Rate is 4.0%, and the expected equity risk premium is 6%.

Stable-growth period assumptions:

- SOX, Inc.'s, target debt ratio is 40% and a beta of 1.0.
- The long-term Treasury Bond Rate is 4.0% and the expected equity risk premium is 6%.
- Capital expenditures are assumed to equal depreciation.
- In year 5, earnings are $8.10 per share while the change in working capital is $2.00 per share.
- Earnings and working capital are expected to grow by 3% a year in the future.

What is the present value on a per share basis for SOX, Inc.?

(A) $70.49.

(B) $64.24.

(C) $77.15.

33. BOX, Inc., earned $4.55 per share last year. The firm had capital expenditures of $1.75 per share and depreciation expense of $1.05. BOX, Inc., has a target debt ratio of 0.25.

	High-Growth Period	Transitional Period	Stable-Growth Period
Duration	2 Years	5 Years	
Earnings growth rate	45%	Will decline 8% per year to5% in the stable-growth period	5%
Growth in capital expenditures	30%	Increases by 8% per year	Same $ amount as Depreciation
Growth in depreciation	30%	Increases by 13% per year	Same $ amount as Capital Expenditure
Change in working capital	Given Below	Given Below	$2.25 per share in Year 8
Shareholder required return	25%	15%	10%

	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
Earnings per share (EPS)	4.55	6.60	9.57	13.11	16.91	20.46	23.12	24.27
Capital expenditures	1.75	2.28	2.96	3.19	3.45	3.73	4.02	4.35
Depreciation	1.05	1.37	1.77	2.01	2.27	2.56	2.89	3.27
Change in working capital (WC)	0.90	1.10	1.40	1.60	1.80	2.00	2.20	2.10
Free cash flow to equity (FCFE)			7.63	11.01	14.67	18.08	20.62	21.89

What is the present value of BOX, Inc.?

(A) $223.65.
(B) $212.91.
(C) $195.71.

34. A control perspective is most consistent with which of the following valuation approaches?

(A) Dividends.
(B) Free cash flow (FCF).
(C) Price to enterprise value.

35. Using the information below, value the stock of Symphony Publishing, Inc. using the free cash flow from equity (FCFE) valuation method.

- Required return of 13.0%.
- Value at the end of year 3 of 13 times $FCFE_3$.
- Shares outstanding: 10.0 million.
- Net income in year 1 of $10.0 million, projected to grow at 10% for the next two years.
- Depreciation per year of $3.0 million.
- Capital Expenditures per year of $2.5 million.
- Increase in working capital per year of $1.0 million.
- Principal repayments on debt per year of $1.5 million.

The value per share of Symphony Publishing is approximately:

(A) $112.10.
(B) $14.10.
(C) $11.21.

36. A common approach to forecasting free cash flows is to:

(A) calculate historical free cash flow and apply an expected growth rate.
(B) project earnings before interest and taxes (EBIT) and expected capital expenditures.
(C) project net income and expected capital expenditures.

37. A firm has:

- Free cash flow to equity = $4.0 million.
- Cost of equity = 12%.
- Long-term expected growth rate = 5%.
- Value of equity per share = $57.14 per share.

What will happen to the value of the firm if free cash flow to equity decreases to $3.2 million?

(A) The value will decrease.
(B) The value will increase.
(C) There is insufficient information to tell.

38. Which of the following free cash flow to equity (FCFE) models is most suited to analyze firms in an industry with significant barriers to entry?

(A) FCFE Perpetuity Model.

(B) Two-stage FCFE Model.

(C) Stable Growth FCFE Model.

39. Which of the following statements about the three-stage FCFE model is most accurate?

(A) There is a transition period where the growth rate is stable.

(B) There is a transition period where the growth rate declines.

(C) There is a final phase when growth rate starts to decline.

40. Sudbury Industries expects FCFF in the coming year of 400 million Canadian dollars ($), and expects FCFF to grow forever at a rate of 3 percent. The company maintains an all-equity capital structure, and Sudbury's required rate of return on equity is 8 percent.

Sudbury Industries has 100 million outstanding common shares. Sudbury's common shares are currently trading in the market for $80 per share.

Using the Constant-Growth FCFF Valuation Model, Sudbury's stock is:

(A) fairly valued.

(B) undervalued.

(C) overvalued.

41. Using the stable growth free cash flow to the firm (FCFF) model, what is the value of Quality Builders under the assumptions contained in the table below?

Quality Builder Free Cash Flow to the FirmYear 0	
EBIT	$500
Depreciation	$200
Capital Spending	$300
Working Capital Additions	$30
Tax Rate	40%
Assumed Constant Growth Rate in Free Cash Flow	5%
Weighted-average Cost of Capital	11%

(A) $2,833.33.

(B) $6,475.00.

(C) $2,975.00.

42. The repayment of a significant amount of outstanding debt will cause free cash flow to equity (FCFE) to:
    (A) remain the same.
    (B) increase.
    (C) decrease

43. Industrial Light currently has:
    - Expected free cash flow to the firm in one year = $4.0 million.
    - Cost of equity = 12%.
    - Weighted average cost of capital = 10%.
    - Total debt = $30.0 million.
    - Long-term expected growth rate = 5%.

    What is the value of equity?
    (A) $50,000,000.
    (B) $44,440,000.
    (C) $80,000,000.

44. Using the three components of the DuPont system, and using opening balance sheet values, which of the following statements regarding 20x5 is correct?
    (A) Total asset turnover is 0.556, financial leverage is 2.07, and ROE is 11.5%.
    (B) Total asset turnover is 1.798, financial leverage is 2.07, and ROE is 11.5%.
    (C) Total asset turnover is 0.556, financial leverage is 0.483, and ROE is 11.5%.

45. Assuming an ROE on 11.5%, which of the following is the best estimate of the sustainable growth rate for Busicomb Inc.?
    (A) 10.1%.
    (B) 8.7%.
    (C) 11.5%.

46. Which of the following is the most accurate estimate of the value of a share of Busicomb Inc.'s common stock using the H model variant of the dividend discount model (DDM)? Work to the nearest $ and assume the cost of equity is 12.3%.
    (A) $33 per share.
    (B) $32 per share.
    (C) $42 per share.

47. It has also been estimated that the Free Cash Flow to the firm will be $46m next year. It is expected to grow at 12% for the following two years before settling down to a long-term rate of growth of 6%. Which of the following is the most accurate estimate of the value of Busicomb Inc.'s business using a two stage FCFF model? Work to the nearest $m.
    (A) $2,402m.
    (B) $2,204m.
    (C) $1,968m.

48. An analyst is performing an equity valuation for a minority equity position in a dividend paying multinational. The appropriate model for this analysis is most likely:
    (A) FCFE approach.
    (B) The Dividend Discount approach.
    (C) FCFF approach.

49. In computing free cash flow, the most significant non-cash expense is usually:
    (A) depreciation.
    (B) deferred taxes.
    (C) capital expenditures

50. A firm has:
    - Free cash flow to equity = $4.0 million.
    - Cost of equity = 12%.
    - Long-term expected growth rate = 5%.
    - Value of equity per share = $57.14 per share.

    What will happen to the value of equity if the cost of equity decreases to 10%?
    (A) The value will increase.
    (B) There is insufficient information to tell.
    (C) The value will decrease.

51. Free cash flow approaches are the best source of value when:
    (A) return on assets is falling.
    (B) a firm has significant minority interest.
    (C) dividends are not paid.

52. The difference between the value estimate produced by the dividend discount model (DDM) and the one produced by the free cash flow to equity (FCFE) model can be accounted for by which of the following?
    (A) Different sales forecast.
    (B) Different estimates of model risk.
    (C) The value in controlling the firm's dividend policy.

53. In forecasting free cash flows it is common to assume that investment in working capital:
    (A) is greater than fixed capital investment during a growth phase.
    (B) will equal fixed capital investment.
    (C) will be financed using the target debt ratio.

54. Free cash flow (FCF) approaches are the best source of value when:
    (A) a firm has no preferred stock.
    (B) a firm has significant minority interest.
    (C) dividends are paid but do not reflect the company's capacity to pay dividends.

55. Valuation with free cash flow to equity and free cash flow to the firm:
    (A) use different discount rates.
    (B) both use the cost of equity.
    (C) both use the after-tax cost of debt.

56. Free cash flow to the firm (FCFF) adjusts earnings before interest and taxes (EBIT) by:
    (A) subtracting investments in fixed capital and working capital.
    (B) adding taxes, deducting depreciation, and adding back the investments in fixed capital and working capital.
    (C) deducting taxes, adding back depreciation, and deducting the investments in fixed capital and working capital.

57. BOX Inc. earned $4.55 per share last year. The firm had capital expenditures of $1.75 per share and depreciation expense of $1.05. BOX Inc. has a target debt ratio of 0.25.

	High-Growth Period	Transitional Period	Stable-Growth Period
Duration	2 Years	5 Years	
Earnings growth rate	45%	Will decline 8% per year to5% in the stable-growth period	5%
Growth in capital expenditures	30%	Increases by 8% per year	Same as Depreciation
Growth in depreciation	30%	Increases by 13% per year	Same as Capital Expenditure
Change in Working Capital	Given Below	Given Below	$2.25 per share in Year 8
Shareholder Required Return	25%	15%	10%

	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
EPS	4.55	6.60	9.57	13.11	16.91	20.46	23.12	24.27
Capital Expenditures	1.75	2.28	2.96	3.19	3.45	3.73	4.02	4.35
Depreciation	1.05	1.37	1.77	2.01	2.27	2.56	2.89	3.27
Change in WC	0.90	1.10	1.40	1.60	1.80	2.00	2.20	2.10
FCFE			7.63	11.01	14.67	18.08	20.62	21.89

In year 1, what is the free cashflow to equity (FCFE) for BOX Inc.?

(A) $3.35.
(B) $6.10.
(C) $5.09.

58. The one-stage (stable growth) free cash flow models assume:
(A) the required rate of return exceeds the growth rate.
(B) the required rate of return is less than the growth rate.
(C) a constant growth rate for *n* years and a high growth rate forever thereafter.

59. Which of the following is one of the differences between FCFE and FCFF? FCFF does not deduct:
(A) operating expenses.
(B) working capital investment.
(C) interest payments to bondholders.

60. Which of the following is the least likely reason for Carson's decision to use FCFE in valuing Overhaul rather than FCFF?
(A) Overhaul's capital structure is stable.
(B) FCFE is an easier and more straightforward calculation than FCFF.
(C) Overhaul's debt ratio is significantly higher than the industry average.

61. What is the expected growth rate in FCFF that Carson must have used to generate his valuation of $1.08 billion?
(A) 5%.
(B) 7%.
(C) 12%.

62. If Carson had estimated FCFE under the assumption that Overhaul Trucking maintains a target debt-to-asset ratio of 36 percent for new investments in fixed and working capital, what would be his forecast of 2006 FCFE?
(A) $26.5 million.
(B) $9.6 million.
(C) $16.9 million.

63. A firm currently has sales per share of $10.00, and expects sales to grow by 25% next year. The net profit margin is expected to be 15%. Fixed capital investment net of depreciation is projected to be 65% of the sales increase, and working capital requirements are 15% of the projected sales increase. Debt will finance 45% of the investments in net capital and working capital. The company has an 11% required rate of return on equity. What is the firm's expected free cash flow to equity (FCFE) per share next year under these assumptions?
    (A) $0.38.
    (B) $0.77.
    (C) $1.88.

64. The three-stage FCFE model might result in an extremely high value if:
    (A) the growth rate in the stable-period is too high.
    (B) the growth rate in the stable-period is equal to that of GNP.
    (C) the growth rate in the stable-period is too low.

65. Free cash flow to the firm valuation uses which discount rate?
    (A) After-tax cost of debt.
    (B) Cost of equity.
    (C) Weighted average cost of capital.

66. Regarding statements 1 and 2, are Ballmer's interpretations of free cash flow to the firm (FCFF) and free cash flow to equity (FCFE) CORRECT?
    (A) No, only one interpretation is correct.
    (B) Yes, both interpretations are correct.
    (C) No, neither interpretation is correct.

67. Which of the following statements regarding forecasting FCFE using the components of free cash flow method and net borrowing is most accurate?
    (A) Net income already accounts for interest expense; therefore, net borrowing is not needed.
    (B) Investment in fixed capital and net borrowing are assumed to offset each other.
    (C) The target debt-to-asset ratio accounts for the financing of new investment in fixed capital and working capital.

68. Should dividend-based and free cash flow from equity (FCFE) based valuations result in different equity values for a firm?
    (A) Yes, dividend-based valuations would be higher for firms with large, consistent dividends.
    (B) No, both models should result in the same value.
    (C) Yes, the free cash flow from equity valuation would be higher if there were a premium associated with control of the firm.

69. Which of the following statements regarding the effect a decrease in leverage has on a firm's free cash flow from equity (FCFE) is most accurate?

(A) Current year FCFE decreases, but future FCFE will be increased.

(B) FCFE is unaffected by changes in leverage.

(C) Current year FCFE increases, but future FCFE will be reduced.

70. An analyst has prepared the following scenarios for Schneider, Inc.:

Scenario 1 Assumptions

- Tax Rate is 40%.
- Weighted average cost of capital (WACC) = 12%.
- Constant growth rate in free cash flow = 3%.
- Last year, free cash flow to the firm (FCFF) = $30.
- Target debt ratio = 10%.

Scenario 2 Assumptions

- Tax Rate is 40%.
- Earnings before interest and taxes (EBIT), capital expenditures, and depreciation will grow at 15% for the next three years.
- After three years, the growth in EBIT will be 2%, and capital expenditure and depreciation will offset each other.
- Weighted average cost of capital (WACC) during high growth stage = 20%.
- Weighted average cost of capital (WACC) during stable growth stage = 12%.
- Target debt ratio = 10%.

Scenario 2 FCFF	Year 0 (last year)	Year 1	Year 2	Year 3	Year 4
EBIT	$15.00	$17.25	$19.84	$22.81	$23.27
Capital Expenditures	6.00	6.90	7.94	9.13	
Depreciation	4.00	4.60	5.29	6.08	
Change in Working Capital	2.00	2.10	2.20	2.40	2.40
FCFF		5.95	7.06	8.25	11.56

Given the assumptions contained in Scenario 2, what is the value of the firm?

(A) $81.54.

(B) $70.39.

(C) $96.92.

71. The primary difference between the three-stage DDM and the FCFE model is:
    (A) growth rate assumptions.
    (B) the definition of cash flows.
    (C) cost of equity.

72. The two-stage (stable growth) free cash flow to equity (FCFE) and free cash flow to the firm (FCFF) models typically assume:
    (A) high growth in free cash flow for n years and then constant growth in free cash flow forever after.
    (B) a high level of free cash flow for n years and then a lower level of free cash flow thereafter
    (C) growth of free cash flow that declines to the required rate of return in the last stage.

73. Industrial Light currently has:
    - Free cash flow to equity = $4.0 million.
    - Cost of equity = 12%.
    - Weighted average cost of capital = 10%.
    - Total debt = $30.0 million.
    - Long-term expected growth rate = 5%.

    What is the value of equity?
    (A) $60,000,000.
    (B) $57,142,857.
    (C) $27,142,857.

74. In year 1, the forecasted free cash flow to equity (FCFE) for TOY, Inc. is closest to:
    (A) $3.56.
    (B) $4.31.
    (C) $4.53.

75. The value of TOY, Inc.'s stock given the above assumptions, is closest to:
    (A) $50.86.
    (B) $64.71.
    (C) $61.57.

76. Comparing the current market value of TOY to our estimate of the stock's current market value, it is most likely that at the current market price of $56.00, TOY Inc. stock is:
    (A) overvalued.
    (B) undervalued.
    (C) fairly valued.

77. Senior management of TOY Inc. is considering selling the company to a rival firm that has offered $450 million. If the current market price represents the fair value of equity and TOY Inc. maintains its target capital structure, the bid represents a price that is:
(A) less than the total value of the firm.
(B) about the same total value of the firm.
(C) greater than the total value of the firm.

78. In the stable-growth FCFE model, an extremely low value can result from all of the following EXCEPT:
(A) the required rate of return is too high for a stable firm.
(B) the expected growth rate is too high for a stable firm.
(C) capital expenditures are too high relative to depreciation.

79. A firm currently has the following per share values:
- Cash flow from operations (CFO) is $49.50.
- Investment in fixed capital is $40.00.
- Net borrowing is $7.50.

What is the current per share free cash flow to equity (FCFE)?
(A) $16.50.
(B) $17.00.
(C) $97.00.

80. Which of the following is least likely to change as the firm changes leverage?
(A) Free cash flows to firm (FCFF).
(B) Weighted average cost of capital (WACC).
(C) Free cash flows to equity (FCFE).

81. In five years, a firm is expected to be operating in a stage of its life cycle wherein its expected growth rate is 5%, indefinitely; its required rate of return on equity is 11%; its weighted average cost of capital is 9%; and the free cash flow to equity in year 6 will be $5.25 per share. What is its projected terminal value at the end of year 5?
(A) $87.50.
(B) $51.93.
(C) $131.25.

82. A three-stage free cash flow to the firm (FCFF) is typically appropriate when:
(A) growth is currently low and will move through a transitional stage to a final stage wherein growth exceeds the required rate of return.
(B) growth is currently high and will move through a transitional stage to a steady-state growth rate.
(C) the required rate of return is less than the growth rate in the last stage.

83. Currently, a firm has no outstanding debt. If the firm would add a small amount of leverage to its balance sheet, what should be the impact on the firm's value? There would be:

(A) an increase in value due to interest tax shields.

(B) a decrease in value due to higher interest expense.

(C) no change in firm value.

84. SOX Inc. expects high growth in the next 4 years before slowing to a stable future growth of 3%. The firm is assumed to pay no dividends in the near future and has the following forecasted free cash flow to equity (FCFE) information on a per share basis in the high-growth period:

	Year 1	Year 2	Year 3	Year 4
FCFE	$3.05	$4.10	$5.25	$6.71

High-growth period assumptions:

- SOX Inc.'s target debt ratio is 40% and a beta of 1.3.
- The long-term Treasury Bond Rate is 4.0%, and the expected equity risk premium is 6%.

Stable-growth period assumptions:

- SOX Inc.'s target debt ratio is 40% and a beta of 1.0.
- The long-term Treasury Bond Rate is 4.0% and the expected equity risk premium is 6%.
- Capital expenditures are assumed to equal depreciation.
- In year 5, earnings are $8.10 per share while the change in working capital is $2.00 per share.
- Earnings and working capital are expected to grow by 3% a year in the future.

In year 5, what is the free cash flow to equity (FCFE) for SOX Inc.?

(A) $7.30.

(B) $6.10.

(C) $6.90.

85. The repurchase of 20% of a firm's outstanding common shares will cause free cash flow to the firm (FCFF) to:

(A) remain the same.

(B) increase.

(C) decrease.

86. A firm has projected free cash flow to equity next year of $1.25 per share, $1.55 in two years, and a terminal value of $90.00 two years from now, as well. Given the firm's cost of equity of 12%, a weighted average cost of capital of 14%, and total outstanding debt of $30.00 per share, what is the current value of equity?
(A) $71.74.
(B) $41.54.
(C) $74.10.

87. When using the two-stage FCFE model, if increases in working capital appear too high the analyst should:
(A) switch to a three-stage model.
(B) normalize them to be equal to zero.
(C) use changes that are based upon a working capital ratio that is closer to the industry average.

88. In forecasting free cash flows it is most common to assume that:
(A) historical levels of free cash flow will persist.
(B) the firm capital structure is static.
(C) the firm has no non-cash expenses.

89. The ownership perspective implicit in the free cash flow to equity valuation approach is of:
(A) a minority position.
(B) a preferred stockholder.
(C) control.

90. The following information is derived from the financial records of Brown Company for the year ended December 31, 2004:

Sales	$3,400,000
Cost of Goods Sold (COGS)	(2,100,000)
Depreciation	(300,000)
Interest Paid	(200,000)
Gain on Sale of Old Equipment	400,000
Income Taxes Paid	(300,000)
Net Income	**$900,000**

- Brown issued bonds on June 30, 2004 and received proceeds of $4,000,000.
- Old equipment with a book value of $2,000,000 was sold on August 15, 2004 for $2,400,000 cash.
- Brown purchased land for a new factory on September 30, 2004 for $3,000,000, issuing a $2,000,000 note and paying the balance in cash.

Cash flow from operations less capital expenditures is:
(A) $6,200,000.
(B) $2,200,000.
(C) $200,000.

91. Ignoring any costs related to financial distress, if a firm increases its financial leverage, the value of the firm should:

(A) increase because the weighted average cost of capital will be lower due to interest tax shields.

(B) increase because the FCFF will increase.

(C) decrease because the required rate of return on debt is lower than that of equity.

92. Which of the following free cash flow to the firm (FCFF) models is most suited to analyze firms that are growing at a faster rate than the overall economy?

(A) High growth FCFF model.

(B) Two-stage FCFF model.

(C) No growth FCFF model.

93. Free cash flow (FCF) approaches are the best source of value when:

(A) a firm is paying a dividend that is higher than the industry average.

(B) FCFs track profitability closely over the analyst's forecast horizon.

(C) a firm has preferred stock.

94. The following table provides forecasts for next year on a per share basis for TOY Inc.:

Item	Forecast
Earnings	$5.00
Capital Expenditures	$2.40
Depreciation	$1.80
Change in Working Capital	$1.70

TOY Inc.'s target debt ratio is 30% and has a required rate of return of 12%. Earnings, capital expenditures, depreciation, and working capital are all expected to grow by 5% a year in the future. Assume that capital expenditures and working capital are financed at the target debt ratio.

What is the forecasted free cashflow to equity (FCFE) for TOY Inc.?

(A) $3.39.

(B) $2.70.

(C) $4.31.

95. Mark Washington, CFA, uses a two-stage free cash flow to equity (FCFE) discount model to value Texas Van Lines. His analysis yields an extremely low value, which he believes is incorrect. Which of the following is least likely to be a cause of this suspect valuation estimate?

(A) The forecast of working capital as a percentage of revenues in the stable growth period is not large enough to maintain the long-term sustainable growth rate.

(B) The cost of equity estimate in the stable growth period is too high for a stable firm

(C) Earnings are temporarily depressed because of a one-time extraordinary account charge in the most recent fiscal year.

96. Assuming a constant debt-to-asset ratio, the base year FCFE is closest to:

(A) €3.00.

(B) €3.80.

(C) €4.85.

97. Using the stable-growth FCFE model as suggested by Analyst #1, the value of Hiller stock is closest to:

(A) €51.58.

(B) €54.29.

(C) €57.00.

98. Based on Analyst #2's estimates, the sum of the terminal value plus the FCFE for year 6 is closest to:

(A) €75.80.

(B) €60.70.

(C) €82.40.

99. Based on Analyst #2's estimates, the value of Hiller stock is closest to:

(A) €60.70.

(B) €59.70.

(C) €57.00.

100. The value of stock under the two-stage FCFE model will be equal to:

(A) present value (PV) of FCFE during the extraordinary growth period plus the PV of terminal value.

(B) present value (PV) of FCFE during the extraordinary growth and transitional periods plus the PV of terminal value.

(C) present value (PV) of FCFE during the extraordinary growth period plus the terminal value

101. A biotech firm is currently experiencing high growth and pays no dividends. One of their product patents is scheduled to expire in 5 years. This firm would be a good candidate for which of the following valuation models?

(A) Single-stage free cash flow to equity (FCFE).

(B) Two-stage dividend discount model (DDM).

(C) Two-stage free cash flow to equity (FCFE).

102. A firm has:

- Free cash flow to the firm = $4.0 million.
- Weighted average cost of capital = 10%.
- Total debt = $30.0 million.
- Long-term expected growth rate = 5%.
- Value of the firm = $50.00 per share.

What will happen to the value of the firm if the weighted average cost of capital increases 12%?

(A) The value will increase.

(B) The value will decrease.

(C) The value will remain the same.

103. An analyst has prepared the following scenarios for Schneider, Inc.: Scenario 1 Assumptions:

- Tax rate is 40%.
- Weighted average cost of capital (WACC) = 12%.
- Constant growth rate in free cash flow = 3%.
- Last year, free cash flow to the firm (FCFF) = $30.
- Target debt ratio = 10%.

Scenario 2 Assumptions:

- Tax rate is 40%.
- Expenses before interest and taxes (EBIT), capital expenditures, and depreciation will grow at 15% for the next three years.
- After three years, the growth in EBIT will be 2%, and capital expenditure and depreciation will offset each other.
- WACC during high growth stage = 20%.
- WACC during stable growth stage = 12%.
- Target debt ratio = 10%.

Scenario 2 FCFF	Year 0 (last year)	Year 1	Year 2	Year 3	Year 4
EBIT	$15.00	$17.25	$19.84	$22.81	$23.27
Capital Expenditures	6.00	6.90	7.94	9.13	
Depreciation	4.00	4.60	5.29	6.08	
Change in Working Capital	2.00	2.10	2.20	2.40	2.40
FCFF		5.95	7.06	8.25	11.56

Assuming that Schneider, Inc., slightly increases its financial leverage, what should happen to its firm value? The firm value should:

(A) decline due to the increase in risk.

(B) not change because financial leverage has no relationship with firm value.

(C) increase due to the additional value of interest tax shields.

104. On a per share basis for a firm:

- Sales are $10.00.
- Earnings per share (EPS) is $4.00.
- Depreciation is $3.00.
- After-tax interest is $2.40.
- Investment in working capital is $1.50.
- Investment in fixed capital is $2.00.

What is the firm's expected free cash flow to the firm (FCFF) per share?

(A) $2.90.

(B) $7.50.

(C) $5.90.

105. If the investment in fixed capital and working capital offset each other, free cash flow to the firm (FCFF) may be proxied by:

(A) earnings before interest and taxes (EBIT).

(B) net income plus after-tax interest.

(C) after-tax EBIT plus non-cash charges.

106. The firm's earnings growth rate is most accurately estimated as:

(A) 6.4%.

(B) 8.0%.

(C) 4.8%.

107. The 2013 forecasted free cash flow to equity is:
   (A) $300M.
   (B) $340M.
   (C) $420M.

108. If the total market value of equity is $6.0 billion and the growth rate is 8.0%, the cost of equity based on the stable growth FCFE model is closest to:
   (A) 7.0%.
   (B) 15.0%.
   (C) 14.0%.

109. The beta for HTC is 1.056, the risk-free rate is 5.0% and the market risk premium is 10.0%. The weighted average cost of capital for HTC is closest to:
   (A) 13.34%.
   (B) 15.56%.
   (C) 11.74%.

110. The two-stage FCFE model is suitable for valuing firms that:
   (A) have moderate growth in the initial phase that declines gradually to a stable rate.
   (B) are in an industry with significant barriers to entry.
   (C) have very high but declining growth rate in the initial stage.

111. The following information pertains to the Harrisburg Tire Company (HTC) in 2000.
   - Earnings (net income) = $600M.
   - Dividends = $120M.
   - Interest expense = $400M.
   - Tax rate = 40%.
   - Depreciation = $500M.
   - Capital spending = $800M.
   - Total assets = $10B (book value and market value).
   - Debt = $4B (book value and market value).
   - Equity = $6B (book value and market value).

   The firm's working capital needs are negligible, and they plan to continue to operate at their current capital structure.

   The free cash flow to the firm is:
   (A) $540M.
   (B) $420M.
   (C) $300M.

112. A firm's free cash flow to the firm (FCFF) in the most recent year is $80M and is expected to grow at 3% per year forever. If the firm has $100M in debt financing and its weighted average cost of capital is 10%. The value of the firm's equity using the single-stage FCFF model is:
    (A) $1,177M.
    (B) $1,077M.
    (C) $1,043M.

113. The estimate of value from FCFE models will always be different than the value obtained using DDM, if:
    (A) FCFE is higher than dividends.
    (B) FCFE is higher than dividends, and the excess is invested in zero NPV projects.
    (C) FCFE is greater than dividends, and the excess is not invested in zero NPV

114. Which of the following statements regarding the FCFF models is most accurate? The two-stage FCFF model is more useful than the stable-growth FCFF model when the firm is growing at a rate:
    (A) significantly lower than that of the overall economy.
    (B) not significantly higher than that of the overall economy.
    (C) significantly higher than that of the overall economy

115. Optimal capital structure is the mix of debt and equity that will maximize the value of the firm and minimize:
    (A) the firm's cost of capital.
    (B) agency costs of equity.
    (C) the amount of taxable profit reported.

116. The free cash flow to the firm (FCFF) for the current year is closest to:
    (A) $2.39 million.
    (B) $2.31 million.
    (C) $3.57 million.

117. The estimated value of the firm is closest to:
    (A) $50 million.
    (B) $47 million.
    (C) $38 million.

118. If the estimated value of the free cash to the firm (FCFF) for year 0 is $2.4 million, the value per share of BIC stock, based on the stable growth model, is closest to:
   (A) $39.
   (B) $55.
   (C) $61.

119. The current market price of BIC is $62.50 per share, and the current year's FCFE is $1.75 million. Using a two-stage growth model to find the estimated the firm's value, the current market price BIC is most accurately described as:
   (A) overvalued.
   (B) undervalued.
   (C) fairly valued.

120. Using the information available in Exhibit 1, Operating Cash Flow (CFO) for Fishy Discs is closest to?
   (A) £73,000.
   (B) £75,000.
   (C) £85,000.

121. Using the information available in Exhibit 1, capital expenditure for Fishy Discs is closest to?
   (A) £20,000.
   (B) £30,000.
   (C) £50,000.

122. Assuming a CFO figure of £75,000 and capital expenditure of £20,000, Fishy Discs free cash flow to the firm for 20x9 is closest to?
   (A) £55,600.
   (B) £65,000.
   (C) £75,600.

123. Using only the corporate finance firm's data in Exhibit 2 and their growth assumptions, the value of Fishy Discs Ltd.'s equity is closest to?
   (A) £2,033,000.
   (B) £3,075,000.
   (C) £3,105,000.

124. How many on of Tony's concerns are valid?
   (A) Both.
   (B) Neither.
   (C) Only concern 2.

125. How many of the FCFF definitions, in Exhibit 3, that Tony is studying are accurate?
   (A) Both.
   (B) Neither.
   (C) Only FCFF from EBIT.

126. Terminal value in multi-stage free cash low valuation models is often calculated as the present value of:
   (A) free cash flow divided by the growth rate.
   (B) a constant growth model's price as of the beginning of the last stage.
   (C) a two–stage valuation model's price.

127. The stable growth free cash flow to the firm (FCFF) model is most useful in valuing firms that:
   (A) have capital expenditures that are significantly higher than depreciation.
   (B) have capital expenditures that are not significantly higher than depreciation.
   (C) are growing at a rate significantly lower than that of the overall economy.

128. Terminal value in a multi-stage free cash flow to equity (FCFE) valuation model is often calculated as the present value of:
   (A) free cash flow divided by the growth rate.
   (B) a two-stage valuation model's price.
   (C) FCFE divided by the total of required rate equity minus growth.

129. Given the assumptions contained in Scenario 1, the value of the firm is most accurately estimated as:
   (A) $343 million.
   (B) $333 million
   (C) $250 million.

130. In Scenario 2, the value of the firm is closest to:
   (A) $315 million.
   (B) $346 million.
   (C) $321 million.

131. The cost of equity for Schneider Inc. is closest to:
   (A) 13.0%.
   (B) 5.8%.
   (C) 11.3%.

132. The market value of Schneider Inc.'s stock is:
   (A) $17.50 per share.
   (B) $31.50 per share.
   (C) $15.75 per share

133. The stable-growth free cash flow to equity (FCFE) model is best suited for which of the following types of companies? Companies:
   (A) with significant barriers to entry.
   (B) with patents that will not expire for 20 or more years.
   (C) growing at a rate similar or less than the nominal growth rate of the economy.

134. Which of the following types of company is the E-Model, a three-stage free cash flow to equity (FCFE) Model, best suited for? Companies:
   (A) in high growth industries that will face increasing competitive pressures over time, leading to a gradual decline in growth to a stable level.
   (B) growing at a rate similar to or less than the nominal growth rate of the economy.
   (C) with patents or firms in an industry with significant barriers to entry.

135. A firm's free cash flow to equity (FCFE) in the most recent year is $50M and is expected to grow at 5% per year forever. If its shareholders require a return of 12%, the value of the firm's equity using the single-stage FCFE model is:
   (A) $714M.
   (B) $750M.
   (C) $417M.

136. Free cash flow to equity valuation uses which discount rate?
   (A) After-tax cost of debt.
   (B) Weighted average cost of capital.
   (C) Cost of equity.

137. If the investment in fixed capital and working capital offset each other, free cash flow to the firm (FCFF) may be proxied by:
   (A) earnings before interest and taxes (EBIT).
   (B) net income plus non-cash charges plus after-tax interest.
   (C) net income plus after-tax interest.