23 RESIDUAL INCOME VALUATION

1. Travel Advisors has earnings before interest and taxes (EBIT) of $200 million, interest expense of $83 million, taxes of $46.8 million, and total debt of $125 million. It is also financed with total equity of $850 million, which has a required rate of return of 12%. What is Travel Advisors' residual income?
   (A) A profit of $31.8 million.
   (B) A loss of $31.8 million.
   (C) A profit of $70.2 million.

2. Travel Advisors has earnings before interest and taxes (EBIT) of $200 million, interest expense of $83 million, taxes of $46.8 million, and total debt of $125 million. It is also financed with total equity of $650 million, which has a required rate of return of 12 percent. What is Travel Advisors' residual income? A:
   (A) profit of $70.2 million.
   (B) loss of $7.8 million.
   (C) loss of $70.2 million.

3. Economic value added (EVA®) is calculated as net operating profit after taxes minus:
   (A) a charge for equity capital.
   (B) a charge for total capital.
   (C) capital expenditures.

4. An argument for using the residual income (RI) valuation approach is that:
   (A) the models focus on economic rather than just on accounting profitability.
   (B) the models rely on accounting data that can be manipulated by management.
   (C) the clean surplus relation fails to hold.

5. In general, firms making aggressive accounting decisions will report book values that are:
   (A) lower.
   (B) higher.
   (C) consistent with fair market value.

6. Which statement best describes the relationship between the residual income model and the free cash flow to equity model?
   (A) They do not reply on accounting assumptions.
   (B) Intrinsic value calculated by both should be the same if assumptions are the same.
   (C) They both discount a future stream of cash flow.

7. Calculate the intrinsic value of the company using a residual income model, assuming that after four years, Silo's residual income will decay over time to zero with a persistence factor of 0.3.
   (A) $8.9.
   (B) $9.2.
   (C) $8.1.

8. Calculate the intrinsic value of the company using a residual income model, assuming that after four years, Silo's residual income will remain constant forever.
   (A) $8.8.
   (B) $11.4.
   (C) $10.7.

9. Regarding Oliver Chippy's comments on persistence factors:

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

10. Regarding the handbook's statements on residual income:

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

11. Midland Semiconductor has a book value of $10.50 per share. The company's return on equity is 20%, and its required return on equity is 17%. The dividend payout ratio is 30%. What is the value of the shares using a single-stage residual income model?
   (A) $31.50.
   (B) $10.50.
   (C) $21.00.

12. Market value added is calculated as:
    (A) market value of the company minus total capital.
    (B) net operating profit after taxes minus a charge for total capital.
    (C) market value of the company minus a charge for equity capital.

13. The total cumulative present value of Raver Industries' projected residual income (RI) over the next five years is £60 per share. Beyond that time horizon, a key analyst projects that the firm will sustain a RI of £11 per share, which is the RI for year 5. Given a cost of equity of 12%, what is the terminal value of the stock as of year 5?
    (A) £500.00.
    (B) £91.67.
    (C) £560.00.

14. A use of the residual income (RI) valuation approach is:
    (A) providing a check of consistency between competing approaches like free cash flow of equity (FCFE) and dividend discount model (DDM).
    (B) deferring value more than in competing valuation approaches.
    (C) providing more reliable estimates of terminal value.

15. An analyst is considering the purchase of Delphos Machinery, which has a price-to-book value (P/B) ratio of 8.00. Return on equity (ROE) is expected to be 14%, current book value per share is $12.00, and the cost of equity is 11%. What growth rate is implied by the current P/B rate?
    (A) 11.00%.
    (B) 8.43%.
    (C) 10.57%.

16. Analyst Brett Melton, CFA, is looking at two companies. Happy Cow Dairies has volatile cash flows, and its free cash flow is often negative. The company pays no dividends. Glitter and Gold, a maker of girls' clothing, has a fairly steady stream of earnings and cash flows but takes a lot of charges against equity. Is the residual income model suitable for valuing the two companies?

	Happy Cow Dairies	Glitter and Gold
(A)	No	No
(B)	No	Yes
(C)	Yes	No

17. The residual income approach is appropriate when:
   (A) a firm pays high dividends that are quite stable.
   (B) the clean surplus accounting relation is violated significantly.
   (C) expected free cash flows are negative for the foreseeable future.

18. Assuming that the growth rate is less than the required rate of return (r), a decrease in initial book value will cause value in a residual income (RI) model to:
   (A) increase.
   (B) there is insufficient information to determine the effect on RI.
   (C) decrease.

19. A common adjustment in calculating economic value added (EVA®) is to:
   (A) capitalize and amortize research and development expenses.
   (B) add back deferred taxes.
   (C) treat capital leases as operating leases.

20. A residual income model would be least appropriate as a tool to measure which of the following?
   (A) Operating leverage.
   (B) Economic income.
   (C) Goodwill impairment.

21. Which of the following statements least accurately explains the relationship between the residual income (RI) model, the dividend discount model (DDM), and free cash flow to equity (FCFE):
   (A) All the models discount future cash flows or income at the required rate of return.
   (B) FCFE models use historical cash flows.
   (C) RI models use an equity value from the balance sheet plus the present value of expected future residual income.

22. An analyst is considering the purchase of Rylinks, Inc., which has a price to book value (P/B) ratio of 6.00. Return on equity (ROE) is expected to be 13%, current book value per share is $13.00, and the cost of equity is 11%. What growth rate is implied by the current P/B rate?
   (A) 10.60%.
   (B) 0.40%.
   (C) 11.00%.

23. Professor Cliff Webley made the following statements in his asset-valuation class:

Statement 1: "Residual income approaches generally model ROE as approaching zero over time."

Statement 2: "If actual return on equity equals required return on equity, the residual income model sets the company's proper market value equal to its book value."

Statement 3: "Using consistent assumptions, the single-stage residual income model should give you the same valuation as the Gordon Growth Dividend-discount model."

Which of Webley's statements is least accurate?

(A) Statement 2.
(B) Statement 3.
(C) Statement 1.

24. In general, firms making aggressive accounting decisions will report future earnings that are:

(A) lower.
(B) higher.
(C) inflation-adjusted.

25. The single-stage residual income model values a company at:

(A) book value times a factor determined by the discount rate.
(B) book value plus the present value of the firm's expected economic profits.
(C) book value plus the terminal value discounted at the weighted average cost of capital.

26. Which of the following characteristics of a company would make it unsuitable for residual income valuation analysis?

(A) Book-value estimates are not reliable.
(B) The forecast of terminal value is not reliable.
(C) Free cash flows are negative and likely to remain so for some time.

27. Cognitive Products (CP) designs decision-making software. The book value of its assets is $3.2 billion, which is financed with $2.0 billion in equity and $1.2 billion in debt. Its before-tax cost of debt is 6.5%, while its relevant tax rate is 34%. CP has a cost of equity of 12.46%. Its abbreviated income statement is:

Earnings before interest and taxes (EBIT)	$213,000,000
Interest expense	(30,000,000)
Pretax income	183,000,000
Income tax expense	(62,220,000)
Net income	$120,780,000

The residual income (RI) for CP is closest to:

(A) - $128,420,000.

(B) - $128,369,000.

(C) - $128,471,000.

28. An investor is considering the purchase of Microscopics, which has a price to book value (P/B) ratio of 4.00. Return on equity (ROE) is expected to be 12%, current book value per share is $12.00, and the cost of equity is 10%. What growth rate is implied by the current P/B rate?

(A) 0.67%.

(B) 10.00%.

(C) 9.33%.

29. When a company's ROE is the same as the return required by the market, the stock's justified market value is closest to the:

(A) book value plus residual income.

(B) actual market value plus residual income.

(C) book

30. Which of the following assumptions is not commonly used to simplify the calculation of residual income? Continuing residual income is expected to:

(A) disappear immediately.

(B) decline to the market average.

(C) decline gradually as ROE declines.

31. Which of the following scenarios represents a violation of the clean surplus relationship?

(A) A company stops paying dividends suddenly.

(B) Unusual charges against income.

(C) The market value of securities available for sale changes.

32. The economic value added (EVA) of CR Industries is closest to:

(A) –$4.53 million.

(B) –$8.13 million.

(C) $2.67 million.

33. The residual income approach is NOT appropriate when:

(A) expected free cash flows are negative for the foreseeable future.

(B) a firm does not pay dividends or the stream of payments is too volatile to be sufficiently predictable.

(C) the clean surplus accounting relation is violated significantly.

34. Calculate the total value of the common stock in Busicomb Inc. at 31 December 20x5 using the constant growth residual income valuation model. Work to the nearest $m.

(A) $836m.

(B) $579m.

(C) $708m.

35. Jon is comparing the different equity valuation models. He believes that the residual income model offers some advantages to the analyst over the other models. Which of the following is an advantage of the residual income model?

(A) It does not require the clean surplus relationship to hold.

(B) The intrinsic value is not dominated by the terminal value.

(C) No adjustments to the financial data is required.

36. Use the information above and the residual income model to calculate the implied growth rate in Entrebus Inc.

(A) 13.33%.

(B) 7.67%.

(C) 9.67%.

37. What is the best estimate of the EVA for Busicomb for 20x6?

(A) $0.

(B) –$3.46m.

(C) –$5.84m.

38. Bob's comment is best described as:

(A) correct.

(B) incorrect as unrealized gains or losses are reported in the income statement.

(C) incorrect as both the net income and book value of equity are incorrect stated.

39. Binkster's comment is best described as:

(A) correct.

(B) incorrect as gains or losses should not be adjusted.

(C) incorrect as the book value of equity should be adjusted.

40. In a single-stage residual income model for a firm with return on equity (ROE) greater than the required rate of return, which statement is least accurate?

(A) The justified price-to-book value (P/B) ratio will be greater than one.

(B) Free cash flow to equity will be positive.

(C) Market value will be greater than book value.

41. If a multistage residual income model incorporates a persistence factor of zero, the analyst is most likely assuming that residual income will:
    (A) fall to zero immediately.
    (B) decline to zero over time.
    (C) persist at the current level forever.

42. Red Shoes's recent financial statements reported a book value of $11.00 per share; its required rate of return is 9%. Analyst Tony Giancola, CFA, wants to calculate the company's intrinsic value using a multistage residual income with a high-growth RI for the next 5 years. Giancola creates the following estimates:
    - PV of interim high-growth RI for the next 5 years is $ 2.90
    - At the end of year 5, the PV of continuing RI is $7.00
    - Estimated Book Value in 5 years is $14.00

    Which of the following is closest to the current intrinsic value of Red Shoes?
    (A) $18.45.
    (B) $20.90.
    (C) $9.90.

43. Assuming that the growth rate is less than the required rate of return (r), an increase in return on equity (ROE) will cause value in a residual income (RI) model to:
    (A) decrease if ROE is greater than the required rate of return.
    (B) increase if ROE is greater than the required rate of return.
    (C) there is insufficient information to derive the effects of increasing ROE

44. Advanced Instruments reported the following for the end of its fiscal year:
    - Revenues = $50.3 million.
    - Earnings per share = $0.68.
    - Dividends per share = $0.17.
    - Shares outstanding = 5 million.
    - Tax rate = 40%.

    Book value per share was $4 at the beginning of the year. If the required rate of return is 15%, what is the value of the shares using a single-stage residual income model?
    (A) $6.01.
    (B) $4.78.
    (C) $7.56.

45. Krieger String & Twine expects to generate a return on equity (ROE) of 13.6% in each of the next five years. The required ROE is 8.7%. Current book value is $12.40 per share and the firm pays no dividends. Krieger previously assumed residual income falls to zero immediately after five years, but has now decided to recalculate its estimated value using a persistence factor of 35%. The difference between the new valuation and the old one is closest to:
    (A) $0.64 per share.
    (B) $0.16 per share.
    (C) $0.32 per share.

46. SmallCo has the following characteristics:
    - Long-term debt = $55 million
    - Equity = $45 million
    - WACC = 11%
    - EBIT = $10 million
    - Marginal tax rate = 30%

    SmallCo's economic value added is closest to:
    (A) +$1 million.
    (B) -$1 million.
    (C) -$4 million.

47. Brown Manufacturing's recent financial statements reported a book value of $9.50 per share; its required rate of return is 10%. Analyst Tony Giancola, CFA, wants to calculate the company's intrinsic value using a multistage residual income with a high-growth RI for the next 5 years. Giancola creates the following estimates:
    - PV of interim high-growth RI for the next 5 years is $3.10
    - At the end of year 5, the PV of continuing RI is $10.00
    - Estimated Book Value in 5 years is $25.00

    Which of the following is closest to the current intrinsic value of Brown Manufacturing?
    (A) $18.81.
    (B) $13.10.
    (C) $22.60.

48. Reported accounting data are most likely to bias an estimate of residual income when:
    (A) standards allow charges directly to stockholders' equity while bypassing the income statements.
    (B) standards allow charges directly to stockholders' equity that are also reflected on the income statements.
    (C) the clean surplus relation holds.

49. Calculate the "traditional" measure of Return on (opening) Equity for 20x6.
   (A) 10.9%.
   (B) 13.2%.
   (C) 14.7%.

50. Calculate Retty's EVA® for 20x6 based on end-of-year invested capital. (Ignore the potential problem created by the write-off of goodwill.)
   (A) $1.3 million negative.
   (B) $1.2 million negative.
   (C) $1.6 million positive.

51. Calculate Retty's residual income for 20x6 based on end-of-year equity.
   (A) –$1.7 million.
   (B) $0.7 million.
   (C) $2.5 million.

52. Calculate Retty's Market Value Added (MVA) for 20x6.
   (A) $9.3 million.
   (B) $12.5 million.
   (C) $50.5 million.

53. Which of the following statements would be most likely to explain a decrease in MVA for 20x7?
   (A) The market expectation is that Retty's results will show an underperformance relative to its sector.
   (B) In 20x6 the management produce negative Economic Value Added (EVA®).
   (C) The market expectation is that Retty's future Economic Value Added (EVA®) is lower than the previous expectation.

54. The chairman has drawn up budgetary forecasts for 20x7 that suggest residual income will be $5m for the year ahead. Management plans for the medium term lead you to believe that this will increase by 5% per annum for the foreseeable future. Using the residual income method, value Retty's equity as at 31st December 20x6.
   (A) $144.5 million.
   (B) $147.0 million.
   (C) $177.2 million.

55. Creative Gardening is expected to have a return on equity (ROE) of 13% for the next five years. and slightly lower thereafter. Its current book value per share as of the beginning of year 1 (i.e. the end of year 0) is \$7.50 per share and its required rate of return is 10%. The premium over book value at the end of five years is expected to be 30%. All earnings are reinvested. The sum of the present values of the residual income estimates over the next five years is \$1.10. The projected ending book value in year 5 is \$13.83. What is the value of Creative Gardening using these inputs?

(A) \$11.18.

(B) \$8.60.

(C) \$13.83.

56. The present value of Forman Electronics' projected residual income (RI) for the next five years is £80 per share. Beyond that time horizon a key analyst projects that the firm will sustain a RI of £17 per share, which is the RI for year 5. Given a cost of equity of 13%, what is the terminal value of the stock as of year 5?

(A) £19.96.

(B) £130.77.

(C) £500.00.

57. A common assumption regarding continuing residual income (RI) is that RI:

(A) falls to the average industry level.

(B) manifests a generally increasing trend indefinitely.

(C) declines to zero as return on equity (ROE) drops to the cost of equity over time.

58. Which description of the relationship among residual income, dividend discount (DDM) and free cash flow to equity (FCFE) models is least accurate?

(A) Residual income differs from DDM and FCFE in that residual income starts with book value.

(B) The different models should result in different intrinsic values because of the theoretical differences in the models.

(C) Residual income differs from DDM and FCFE in that it discounts income rather than cash.

59. An argument for using the residual income (RI) valuation approach is that residual income valuation:

(A) reduces the problem of terminal value dominating total value.

(B) facilitates comparisons between divisions.

(C) encourages company managers to maximize ROI.

60. The residual income approach is appropriate when:
    (A) a firm does not pay dividends or the payments are too volatile to be sufficiently predictable.
    (B) the clean surplus accounting relation is violated significantly.
    (C) a firm pays high dividends that are quite stable.

61. Continuing residual income is defined as the:
    (A) residual income that is expected beyond the initial forecast time horizon.
    (B) residual income that forces the net present value to zero.
    (C) permanent as opposed to the transitory part of residual income.

62. An argument against using the residual income (RI) valuation approach is that:
    (A) the models focus on economic rather than just on accounting profitability.
    (B) the models rely on accounting data that can be manipulated by management.
    (C) terminal value does not dominate total present value as is the case in dividend and free cash flow valuation models.

63. Among the various price multiples, the residual income model is most closely linked to which of the following?
    (A) Price to free cash flow (P/FCF).
    (B) Price to book value (P/B).
    (C) Price to earnings (P/E).

64. Using the assumptions given for RI Inc., and using a single stage (constant growth) model the hypothetical company shares would be valued at:
    (A) $12.61.
    (B) $9.78.
    (C) $10.86.

65. Is Chair correct in his stated concerns?
    (A) Incorrect in both.
    (B) Correct in Statement 1 only.
    (C) Correct in Statement 2 only.

66. Using Chair's estimates and assumptions, what would the value per share of Topper be estimated at, using the residual income model:
    (A) $9.23.
    (B) $10.20.
    (C) $11.41.

67. Which of the accounting policy note extracts identified by Chair would cause an issue with the "clean surplus relationship" when using the residual income model for Topper Inc.?
    (A) Foreign Subsidiaries note.
    (B) Financial Instruments note.
    (C) Both the Foreign Subsidiaries and the Financial Instruments note.

68. Residual income is defined as:
    (A) net income less a charge for capital investment.
    (B) operating income plus depreciation and amortization.
    (C) net income less a charge that measures stockholders' opportunity cost in generating that income.

69. The present value of GB Industries' projected residual income (RI) for the next five years is 70 per share. Beyond that time horizon, a key analyst projects that the firm will sustain a RI of 15 per share, which is the RI for year 5. Given a cost of equity of 12%, what is the terminal value of the stock as of year 5?
    (A) £560.00.
    (B) £500.00.
    (C) £125.00.

70. An investor is considering the purchase of Robust Econometrics, Inc., which has a price-to-book (P/B) value ratio of 4.50. Return on equity (ROE) is expected to be 14%, the current book valuer per share (BVPS) is Sf 22.50, and the cost of equity is 12%. The growth rate implied by the current P/B ratio is closest to:
    (A) 12.57%.
    (B) 11.43%.
    (C) 8.00%.

71. Big Sky Ranches reported the following for the end of its fiscal year:
    - Revenues = $40.8 million.
    - Pretax income = $8.6 million.
    - (beginning-of-the year) Assets = $53.2 million.
    - (beginning-of-the year) Liabilities = $27.8 million.
    - Dividends per share = $0.35.
    - Shares outstanding = 8 million.
    - Tax rate = 35%.

    The beta for Big Sky Ranches is 1.2, the current risk-free rate is 4.5%, and the expected return on the market is 12.5%. What is the value of the shares using a single-stage residual income model?
    (A) $23.23.
    (B) $11.28.
    (C) $8.10.

72. Which of the following is the most appropriate tool to measure managerial effectiveness, goodwill impairment, and equity value?
    (A) Residual income.
    (B) Free cash flow to the firm.
    (C) Gordon growth model.

73. Regarding their statements about the forecast error in residual income models and when they AL recognize value, who is correct?

	LaMarre	Hofstedt
(A)	Incorrect	Incorrect
(B)	Correct	Correct
(C)	Correct	Incorrect

74. Which of the following is least likely to characterize the difference between a residual income model and a FCFE model?
    (A) Terminal value represents a higher proportion of intrinsic value in a residual income model than in a dividend discount model (DDM).
    (B) A residual income model is applicable to a firm that does not have FCF.
    (C) Inputs to a residual income model are more easily manipulated by management.

75. The residual income of Geremiah Analytics is closest to:
    (A) –$120,000.
    (B) $120,000.
    (C) $1,080,000.00

76. Regarding their statements about ROE and residual income, who is correct?

	LaMarre	Hofstedt
(A)	Correct	Incorrect
(B)	Incorrect	Correct
(C)	Correct	Incorrect