FIN5EQS EQUITY SECURITIES

Quiz 4 (Version A) Solutions

1. A company has just paid a dividend of \$2.50 and is current EPS is \$6.25. The EPS is expected to grow at a constant rate of 4% p.a. and it is expected to maintain a constant payout ratio.

   The risk-free rate is 4.9% p.a., the equity risk premium is 6.2% and the company's beta is 0.9. What is the company's justified trailing P/E?

   A. \$6.17
   B. \$6.42
   C. \$9.26
   D. \$9.63

$$r = 0.049 + 0.9(0.062) = 10.48\%$$

$$b = \frac{6.25 - 2.50}{6.25} = 0.6$$

$$\text{Trailing P/E} = \frac{(1-b)(1+g)}{r-g} = \frac{(1-0.6)(1.04)}{0.1048 - 0.04} = \$6.42$$

2. Consider the following balance sheet for Nitram Pty Ltd (all values in \$000)

Cash and investments	4,125	Current liabilities	6,540
Other current assets	8,967	Non-current liabilities	8,912
Non-current assets	9,036	**Total liabilities**	**10,452**
		Ordinary shares	5,884
		Retained earnings	5,792
		Total shareholders' equity	**11,676**
Total assets	**22,128**	**Total liabilities & SHE**	**22,128**

The par value of the ordinary shares is \$1 and the current share price is \$2.25. The company's EBITDA is \$2,468,000. What is its EV/EBITDA?

   A. 4.3
   B. 6.0
   C. 7.3
   D. 9.0

$$EV = 5{,}884{,}000 \times 2.25 + 8{,}912{,}000 - 4{,}125{,}000$$
$$= \$18{,}026{,}000$$

$$EV / EBITDA = \frac{18{,}026{,}000}{2{,}468{,}000} = 7.3$$

3. You are evaluating a company which has a constant retention ratio of 0.45 and is expected to have a constant growth rate for the foreseeable future. The following information about the stock is also available:
   - Current dividend = \$1.80
   - Expected dividend next year = \$1.89
   - Current share price = \$24.50
   - Book value per share = 15.90

   What is the company's PEG?

   A. 1.23
   B. 1.29
   C. 1.50
   D. 1.57

$$EPS = \frac{D}{\text{Payout ratio}} = \frac{1.80}{0.55} = \$3.27$$

$$P/E = \frac{24.50}{3.27} = 7.486 \qquad g = \frac{1.89}{1.80} - 1 = 5\%$$

$$PEG = \frac{P/E}{g} = \frac{7.486}{5} = 1.50$$

4. You decide that your required rate of return on the stock referred to in Question 3 is 11% p.a. What is your estimate of residual income next year?

   A. \$1.52
   B. \$1.69
   C. \$2.25
   D. \$2.45

$$EPS_1 = EPS_0 \times g = 3.27 \times 1.05 = \$3.44$$

$$\text{Equity charge} = BV_0 \times r = 15.90 \times 0.11 = \$1.75$$

$$\text{Residual income} = EPS_1 - (BV_0 \times r) = 3.44 - 1.75 = \$1.69$$

5. A company has a book value per share of \$18.40, and the current share price is \$43.10. Long-term ROE is expected to be 9% and long-term growth is expected to be 7% p.a. What is the intrinsic value of the stock using a Residual Income Model?

   A. \$27.60
   B. \$36.80
   C. \$46.00
   D. \$55.20

$$V_0 = B_0 + \frac{(ROE - r) \times B_0}{r - g}$$

$$= 18.40 + \frac{(0.09 - 0.08) \times 18.40}{0.08 - 0.07}$$

$$= \$36.80$$

6. A company has current EPS of \$1.60 and an expected constant growth rate of 4% p.a. It pays out 80% of its earnings as dividends. The book value per share is \$11.00 and the required return on equity is 7.5%.

   What is the value of the stock using a RIM?

   A. \$21.96
   B. \$25.46
   C. \$29.29
   D. \$34.97

$$RI_1 = E_0(1+g) - r \times B_0$$
$$= 1.60(1.04) - 0.075(11.00) = \$0.839$$
$$V_0 = B_0 + \sum_{t=1}^{\infty} \frac{RI_t}{(1+r)^t} = B_0 + \frac{RI_1}{r-g}$$
$$= 11.00 + \frac{0.839}{0.075 - 0.04} = \$34.97$$

SOLUTIONS

1.	A	**B**	C	D
2.	A	B	**C**	D
3.	A	B	**C**	D
4.	A	**B**	C	D
5.	A	**B**	C	D
6.	A	B	C	**D**