Module 12 – Cost of Capital and Valuation Basics

1. Determine the present value of an 8 year annuity that pays $11,000 at the end of each year discounted at a rate of 6%.

    a. $88,000
    b. $66,000
    c. $68,308
    d. $69,015

    Answer: c

    Present Value Ordinary Annuity = $11,000 x 6.20979 = $68,308

Use the following information to complete Questions 2 - 6.

The following data pertains to Radek Corp., a manufacturer of office supplies (dollar amounts in thousands).

Total assets	$8,731
Interest-bearing debt	$4,239
Average borrowing rate for debt	10.0%
Common equity:	
Book value	$3,130
Market value	$16,284
Marginal income tax rate	35%
Market equity beta	1.33

2. Using the information in the table and assuming that the risk-free rate is 5.3% and the market risk premium is 7.3%, calculate Radek's cost of equity capital, using the capital asset pricing model.

    a. 15.01%
    b. 14.35%
    c.   9.71%
    d.   7.05%

    Answer: a

    Cost of equity capital = 0.053 + (1.33 x 0.073) = 0.1501

3. Using the information in the table, calculate Radek's cost of debt capital.

    a.   6.50%
    b.   13.30%
    c.   10.00%
    d.   3.50%

   Answer: a

   Cost of debt capital = Interest rate x (1 – Marginal tax rate)
   = 0.10 x (1 – 0.35) = 0.065

4. Determine the weight on debt capital that should be used to calculate Radek's weighted-average cost of capital.

    a.   26.03%
    b.   20.65%
    c.   57.52%
    d.   52.54%

    Answer: b

    Weight on debt capital = Debt / (Debt + Market value of equity)
    = $4,239 / ($4,239 + $16,284) = 0.2065

5. Determine the weight on equity capital that should be used to calculate Radek's weighted-average cost of capital.

    a.   73.97%
    b.   79.35%
    c.   42.48%
    d.   47.46%

   Answer: b

   Weight on equity capital = Market value of equity / (Debt + Market value of equity)
   = $16,284 / ($4,239 + $16,284) = 0.7935

6. Using the above information, calculate Radek's weighted-average cost of capital.

    a.   11.50%
    b.   11.89%
    c.   12.48%
    d.   13.25%

   Answer: d

   WACC = [0.2065 x 0.100 x (1 – 0.35)] + [0.7935 x 0.1501] = 0.1325

7. George forecasts a $1.00 dividend for 2017, $1.10 dividend for 2018 and a $1.20 dividend for 2019 for Mikayla Corporation. For all years after 2019, George forecasts that Mikayla Corporation will pay a $1.30 dividend.

Using the dividend discount valuation model, determine the intrinsic value of Mikayla Corporation, assuming the company's cost of equity capital is 8%.

a. $16.25
b. $15.72
c. $18.33
d. $14.57

Answer: b

Period	1	2	3	Terminal
Dividend	$1.00	$1.10	$1.20	$1.30
				$16.25
PV factor	0.92593	0.85734	0.79383	0.79383
$15.72	$0.93	$0.94	$0.95	$12.90

8. Wesley Corporation currently pays a $1.55 dividend and its current stock price is $53.50. Assuming the company's cost of equity capital is 6% use the dividend discount valuation model to estimate the company's growth rate.

a. 1.7%
b. 2.4%
c. 3.1%
d. 6.0%

Answer: c

Use the following formula to solve for the growth rate: $53.50 = $1.55 / (0.06 − g)
g = 0.031

9. Assume that a company has a beta of 0.85 and the risk-free rate is 4%. If the market risk premium is 8% calculate cost of equity capital, using the capital asset pricing model.

a. 8.00%
b. 6.80%
c. 10.80%
d. 12.88%

Answer: c

Cost of equity capital = 0.04 + (0.85 x 0.08) = 0.108 = 10.80%