

- 4-22** I = 7.18%;  
**4-23** I = 9%  
**4-24** a. \$33,872.11  
 b. (1) \$26,243.16  
 (2) \$0  
**4-25** N = 14.77 ≈ 15 years.  
**4-26** 6 years; \$1,106.01  
**4-27** (1) \$1,428.57  
 (2) \$714.29  
**4-28** \$893.26  
**4-29** \$984.88  
**4-30** 57.18%  
**4-31** a. \$1,432.02  
 b. \$93.07  
**4-32**  $I_{\text{NOM}} = 15.19\%$   
**4-33** PMT = \$36,949.61  
**4-34** First PMT = \$9,736.96  
**5-1** \$928.39  
**5-2** 12.48%  
**5-3** 8.55%  
**5-4** 7%; 7.33%  
**5-5** 2.5%  
**5-6** 0.3%  
**5-7** \$1,085.80  
**5-8** YTM = 6.62%; YTC = 6.49%  
**5-9** a. 5%:  $V_L = \$1,518.98$ ;  
 $V_S = \$1,047.62$ ;  
 8%:  $V_L = \$1,171.19$ ;  
 $V_S = \$1,018.52$ ;  
 12%:  $V_L = \$863.78$ ;  
 $V_S = \$982.14$   
**5-10** a. YTM at \$829 = 13.98%;  
 YTM at \$1,104 = 6.50%  
**5-11** 14.82%  
**5-12** a. 10.37%  
 b. 10.91%  
 c. -0.54%  
 d. 10.15%  
**5-13** 8.65%  
**5-14** 10.78%  
**5-15** YTC = 6.47%
- 6-1** b = 1.08  
**6-2**  $r_s = 10.40\%$   
**6-3**  $r_M = 12\%$ ;  $r_B = 16.9\%$   
**6-4** 10.96%  
**6-5**  $r = 11.40\%$ ;  $\sigma = 26.69\%$   
**6-6** a.  $r_M = 13.5\%$ ;  $r_j = 11.6\%$ ;  
 $\sigma_M = 3.85\%$ ;  $\sigma_j = 6.22\%$   
 b.  $b_A = 1.40$   
**6-7** a.  $b_A = 1.40$   
 b.  $r_A = 15\%$   
**6-8** a.  $r_j = 14.8\%$   
 b. (1)  $r_M = 13\%$ ;  $r_j = 15.8\%$ ;  
 (2)  $r_M = 11\%$ ;  $r_j = 13.8\%$   
 c. (1)  $r_j = 17.6\%$ ;  
 (2)  $r_j = 13.4\%$   
**6-9**  $b_N = 1.25$   
**6-10** b.  $p = 0.7625$ ;  $r_p = 12.1\%$   
**6-11**  $b_N = 1.1250$   
**6-12** 4.5%  
**6-13** a.  $r_A = 11.80\%$ ;  $r_B = 11.80\%$   
 b.  $r_p = 11.80\%$   
 c.  $\sigma_A = 25.33\%$ ;  $\sigma_B = 24.33\%$ ;  
 $\sigma_p = 16.33\%$
- 5-16** a. 10-year, 10% coupon = 6.75%;  
 10-year zero = 9.75%;  
 5-year zero = 4.76%;  
 30-year zero = 32.19%;  
 \$100 perpetuity = 14.29%  
**5-17**  $C_0 = \$1,012.79$ ;  $Z_0 = \$693.04$ ;  
 $C_1 = \$1,010.02$ ;  $Z_1 = \$759.57$ ;  
 $C_2 = \$1,006.98$ ;  $Z_2 = \$832.49$ ;  
 $C_3 = \$1,003.65$ ;  $Z_3 = \$912.41$ ;  
 $C_4 = \$1,000.00$ ;  $Z_4 = \$1,000.00$   
**5-18** 5.8%  
**5-19** 1.5%  
**5-20** 6.0%  
**5-21** a. \$1,251.22  
 b. \$898.94  
**5-22** a. 8.02%  
 b. 7.59%  
**5-23** a.  $r_1 = 9.20\%$ ;  $r_s = 7.20\%$   
 b. 1.08