

9/20/12

Problems

Key to 9.45a  
~~9.45a~~

$$5. a. \text{Corr}(R_s, R_B) = \frac{\text{COV}(R_s, R_B)}{\text{SD}(R_s) \text{SD}(R_B)}$$

$$+7 \left( \text{COV}(R_s, R_B) = \frac{1}{3} \left( (60 - \bar{R}_s)(-5 - \bar{R}_B) + (64 - \bar{R}_s)(13 - \bar{R}_B) + (43 - \bar{R}_s)(9 - \bar{R}_B) + (-4 - \bar{R}_s)(-11 - \bar{R}_B) \right) \right) \quad (17)$$

$$+4 \left( \bar{R}_s = \frac{1}{4} (60 + 64 + 43 + -4) \right) \quad (10)$$

$$+4 \left( \bar{R}_B = \frac{1}{4} (-5 + 13 + 9 + -11) \right) \quad (10)$$

$$+4 \left( \text{SD}(R_s) = \sqrt{\frac{1}{3} \left( (60 - \bar{R}_s)^2 + (64 - \bar{R}_s)^2 + (43 - \bar{R}_s)^2 + (-4 - \bar{R}_s)^2 \right)} \right) \quad (10)$$

$$+4 \left( \text{SD}(R_B) = \sqrt{\frac{1}{3} \left( (-5 - \bar{R}_B)^2 + (13 - \bar{R}_B)^2 + (9 - \bar{R}_B)^2 + (-11 - \bar{R}_B)^2 \right)} \right) \quad (10)$$

$$+7 \left( b. \text{SD}_A = \sqrt{\left( \frac{100}{100+20} \right)^2 (\text{SD}(R_s))^2 + \left( \frac{20}{100+20} \right)^2 (\text{SD}(R_B))^2 + 2 \left( \frac{20}{120} \right) \left( \frac{100}{120} \right) \text{COV}(R_s, R_B)} \right) \quad (11)$$