

SU 2012

Key to 9.45b

Problems

$$5. +7 \text{ (a. } \text{corr}(R_S, R_B) = \frac{\text{COV}(R_S, R_B)}{\text{SD}(R_S) \text{SD}(R_B)}$$

$$+7 \left(\text{COV}(R_S, R_B) = \frac{+2}{3} \left(\overset{+1}{(9 - \bar{R}_S)} \overset{+1}{(-5 - \bar{R}_B)} + \overset{+1}{(72 - \bar{R}_S)} \overset{+1}{(13 - \bar{R}_B)} + \overset{+1}{(54 - \bar{R}_S)} \overset{+1}{(9 - \bar{R}_B)} + \overset{+1}{(0 - \bar{R}_S)} \overset{+1}{(-11 - \bar{R}_B)} \right) \right) \text{ (17)}$$

$$+4 \left(\bar{R}_S = \frac{+2}{4} \left(\overset{+1}{9} + \overset{+1}{72} + \overset{+1}{54} + \overset{+1}{0} \right) \right) \text{ (10)}$$

$$+4 \left(\bar{R}_B = \frac{+2}{4} \left(\overset{+1}{-5} + \overset{+1}{13} + \overset{+1}{9} + \overset{+1}{-11} \right) \right) \text{ (10)}$$

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

$$+4 \left(\text{SD}(R_S) = \sqrt{\frac{+2}{3} \left(\overset{+1}{(9 - \bar{R}_S)} \right)^2 + \overset{+1}{(72 - \bar{R}_S)}^2 + \overset{+1}{(54 - \bar{R}_S)}^2 + \overset{+1}{(0 - \bar{R}_S)}^2 \right)} \text{ (10)}$$

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