Check Figures Chapter 5 Business Finance

$\boxed{\textbf{P5-1.}}$ (a) **Investment X:** Return 12.50%

Investment Y: ?

(b) Investment X should be selected because it has a higher rate of return for the same level of risk.

$\boxed{\textbf{P5-7.}}$ LG 3: Coefficient of Variation: $CV = \frac{\sigma_k}{\overline{k}}$

(a) **A** $CV_A = \frac{7\%}{20\%} = 0.3500$

B $CV_B = \frac{9.5\%}{22\%} = 0.4318$

C ?

D ?

(b) Asset C has the lowest coefficient of variation and is the least risky relative to the other choices.

P5-9. LG 3: Integrative–Expected Return, Standard Deviation, and Coefficient of Variation

(a) Expected return: $\bar{k} = \sum_{i=1}^{n} k_i \times P_{ri}$

	Rate of Return k_i	Probability P_{ri}	Expected Return $\bar{k} = \sum_{i=1}^{n} k_i \times P_{ri}$
Asset F	0.40	0.10	
	0.10	0.20	
	0.00	0.40	
	–0.05	0.20	
	–0.10	0.10	
			0.04
Asset G	0.35	0.40	
	0.10	0.30	
	–0.20	0.30	
			0.11
Asset H	0.40	0.10	
	0.20	0.20	
	0.10	0.40	
	0.00	0.20	
	–0.20	0.10	
			0.10

Asset G provides the largest expected return.

(b) Standard Deviation: $\sigma_k = \sqrt{\sum_{i=1}^{n} (k_i - \bar{k})^2 \times P_{ri}}$

	$(k_i - \bar{k})$	σ_k
Asset F	$0.40 - 0.04 = 0.36$	
	$0.10 - 0.04 = 0.06$	
	$0.00 - 0.04 = -0.04$	
	$-0.05 - 0.04 = -0.09$	
	$-0.10 - 0.04 = -0.14$	
		0.1338
Asset G	$0.35 - 0.11 = 0.24$	
	$0.10 - 0.11 = -0.01$	
	$-0.20 - 0.11 = -0.31$	
		0.2278
Asset H	$0.40 - 0.10 = 0.30$	
	$0.20 - 0.10 = 0.10$	
	$0.10 - 0.10 = 0.00$	
	$0.00 - 0.10 = -0.10$	
	$-0.20 - 0.10 = -0.30$	
		0.1483

Based on standard deviation, Asset G appears to have the greatest risk, but it must be measured against its expected return with the statistical measure coefficient of variation, since the three assets have differing expected values. An incorrect conclusion about the risk of the assets could be drawn using only the standard deviation.

(c) Coefficient of Variation $= \dfrac{\text{standard deviation } (\sigma)}{\text{expected value}}$

Asset F: $CV = \dfrac{0.1338}{0.04} = 3.345$

Asset G: ?

Asset H: ?

As measured by the coefficient of variation, Asset F has the largest relative risk.

P5-12. LG 4: Correlation, Risk, and Return

Intermediate

(a) (1) Range of expected return: between 8% and 13%

(2) Range of the risk: between 5% and 10%

(b) (1) Range of expected return: between 8% and 13%

(2) Range of the risk: $0 < \text{risk} < 10\%$

(c) ?

P5-15. Interpreting Beta

Effect of change in market return on asset with beta of 1.20:

(a) $1.20 \times (15\%) =$ 18.0% increase

(b) $1.20 \times (-8\%) =$ 9.6% decrease

(c) ?

5-17. Using Approximation Formula to Determine Forecasted Return

(a)?

(b) and (c)

Impact on Asset Return
A = 9.6%
B = 16.8%
C = -3.6%

(d) In a declining market, an investor would choose the defensive stock, stock C. While the market declines, the return on C increases.

(e) ?

5-19.

Case	**k_j**
A	8.9%
B	12.5%
C	8.4%
D	15.0%
E	8.4%

5-24. Ethics
?