

Chapter 8 - Practice Questions

1. The variance of a portfolio of risky securities
 - A) is a weighted sum of the securities' variances.
 - B) is the sum of the securities' variances.
 - C) is the weighted sum of the securities' variances and covariances.
 - D) is the sum of the securities' covariances.
 - E) none of the above.

2. Which of the following statement(s) is (are) **true** regarding the selection of a portfolio from those that lie on the Capital Allocation Line?
 - A) Less risk-averse investors will invest more in the risk-free security and less in the optimal risky portfolio than more risk-averse investors.
 - B) More risk-averse investors will invest less in the optimal risky portfolio and more in the risk-free security than less risk-averse investors.
 - C) Investors choose the portfolio that maximizes their expected utility.
 - D) A and C.
 - E) B and C.

Use the following to answer questions 3-6:

Consider the following probability distribution for stocks A and B:

<u>State</u>	<u>Probability</u>	<u>Return on Stock A</u>	<u>Return on Stock B</u>
1	0.10	10%	8%
2	0.20	13%	7%
3	0.20	12%	6%
4	0.30	14%	9%
5	0.20	15%	8%

3. The expected rates of return of stocks A and B are _____ and _____, respectively.
 - A) 13.2%; 9%
 - B) 14%; 10%
 - C) 13.2%; 7.7%
 - D) 7.7%; 13.2%
 - E) none of the above

4. The standard deviations of stocks A and B are _____ and _____, respectively.
- A) 1.5%; 1.9%
 - B) 2.5%; 1.1%
 - C) 3.2%; 2.0%
 - D) 1.5%; 1.1%
 - E) none of the above
5. The coefficient of correlation between A and B is
- A) 0.47.
 - B) 0.60.
 - C) 0.58
 - D) 1.20.
 - E) none of the above.
6. If you invest 40% of your money in A and 60% in B, what would be your portfolio's expected rate of return and standard deviation?
- A) 9.9%; 3%
 - B) 9.9%; 1.1%
 - C) 11%; 1.1%
 - D) 11%; 3%
 - E) none of the above
7. Which statement about portfolio diversification is correct?
- A) Proper diversification can reduce or eliminate systematic risk.
 - B) The risk-reducing benefits of diversification do not occur meaningfully until at least 50-60 individual securities have been purchased.
 - C) Because diversification reduces a portfolio's total risk, it necessarily reduces the portfolio's expected return.
 - D) Typically, as more securities are added to a portfolio, total risk would be expected to decrease (at a decreasing rate).
 - E) None of the above statements are correct.
8. Security X has expected return of 12% and standard deviation of 20%. Security Y has expected return of 15% and standard deviation of 27%. If the two securities have a correlation coefficient of 0.7, what is their covariance?
- A) 0.038
 - B) 0.070
 - C) 0.018
 - D) 0.013
 - E) 0.054

9. Given an optimal risky portfolio with expected return of 14% and standard deviation of 22% and a risk free rate of 6%, what is the slope of the best feasible CAL?
- A) 0.64
 - B) 0.14
 - C) 0.08
 - D) 0.33
 - E) 0.36
10. As the number of securities in a portfolio is increased, what happens to the average portfolio standard deviation?
- A) It increases at an increasing rate.
 - B) It increases at a decreasing rate.
 - C) It decreases at an increasing rate.
 - D) It decreases at a decreasing rate.
 - E) It first decreases, then starts to increase as more securities are added.
11. A two-asset portfolio with a standard deviation of zero can be formed when
- A) the assets have a correlation coefficient less than zero.
 - B) the assets have a correlation coefficient equal to zero.
 - C) the assets have a correlation coefficient greater than zero.
 - D) the assets have a correlation coefficient equal to one.
 - E) the assets have a correlation coefficient equal to negative one.

Answer Key

1. C
2. E
3. C
4. D
5. A
6. B
7. D
8. A
9. E
10. D
11. E