1. You just inherited a trust that will pay you $100,000 per year in perpetuity. However, the first payment will not occur for exactly four more years. Assuming an 8 percent annual interest rate, what is the value of this trust?
   1. \_\_\_\_\_\_

$918,787

$1,250,000

$992,290

$1,000,000

1. You would like to have enough money saved to receive a growing annuity for 20 years, growing at a rate of 5 percent per year, with the first payment of $50,000 occurring exactly one year after retirement. How much would you need to save in your retirement fund to achieve this goal? The interest rate is 10 percent.
   1. \_\_\_\_\_\_

$425,678.19

$1,000,000.00

$605,604.20

$827,431.28

1. Overpriced stocks will plot below the security market line.
   1. \_\_\_\_\_\_

* true
* false

1. As the number of stocks in a portfolio is increased:
   1. \_\_\_\_\_\_

unique risk decreases and approaches zero.

total risk approaches zero.

unique risk decreases and becomes equal to market risk.

market risk decreases.

1. Beta is a measure of:
   1. \_\_\_\_\_\_

total risk.

market risk.

liquidity risk.

unique risk.

1. Unique risk is also called:
   1. \_\_\_\_\_\_

non-diversifiable risk.

firm-specific risk.

market risk.

systematic risk.

1. Mila Cabellero has taken a 20-year, $250,000 mortgage on her house at an interest rate of 6 percent per year. What is the remaining balance (or value) of the mortgage after the payment of the fifth annual installment?
   1. \_\_\_\_\_\_

$141,019.50

$248,719.21

$211,689.53

$128,958.41

1. You would like to have enough money saved to receive a growing annuity for 25 years, growing at a rate of 4 percent per year, with the first payment of $60,000 occurring exactly one year after retirement. How much would you need to save in your retirement fund to achieve this goal? The interest rate is 12 percent.
   1. \_\_\_\_\_\_

$1,043,287

$1,500,000

$632,390

$452,165

1. Suppose you borrow at the risk-free rate an amount equal to your initial wealth and invest in a portfolio with an expected return of 20 percent and a standard deviation of returns of 16 percent. The risk-free asset has an interest rate of 4 percent. Calculate the standard deviation of the resulting portfolio.
   1. \_\_\_\_\_\_

36 percent

32 percent

28 percent

40 percent

1. Suppose you invest equal amounts in a portfolio with an expected return of 16 percent and a standard deviation of returns of 18 percent and a risk-free asset with an interest rate of 4 percent.  
   Calculate the standard deviation of the returns on the resulting portfolio.
   1. \_\_\_\_\_\_

20 percent

9 percent

8 percent

10 percent

1. Suppose the beta of Microsoft is 1.13, the risk-free rate is 3 percent, and the market risk premium is 8 percent. Calculate the expected return for Microsoft.
   1. \_\_\_\_\_\_

8.65 percent

15.66 percent

12.04 percent

13.94 percent

1. According to the CAPM, the market portfolio is a tangency portfolio.
   1. \_\_\_\_\_\_

* true
* false

1. For a two-stock portfolio, the maximum reduction in risk occurs when the correlation coefficient between the two stocks equals:
   1. \_\_\_\_\_\_

−0.5.

0.0.

−1.0.

+1.0.

1. Suppose the beta of Exxon-Mobil is 0.65, the risk-free rate is 4 percent, and the expected market rate of return is 14 percent. Calculate the expected rate of return on Exxon-Mobil.
   1. \_\_\_\_\_\_

6.5 percent

12.6 percent

10.5 percent

13.1 percent

1. Stock M and Stock N have had the following returns for the past three years: 12 percent, −10 percent, 32 percent; and 15 percent, 6 percent, and 24 percent, respectively. Calculate the covariance between the two securities. (Ignore the correction for the loss of a degree of freedom set out in the text.)
   1. \_\_\_\_\_\_

250%

−250%

−99%

126%

1. Market risk is also called:
   1. \_\_\_\_\_\_

systematic risk.

systematic risk and undiversifiable risk.

undiversifiable risk.

firm-specific risk.

1. After retirement, you expect to live for 25 years. You would like to have $75,000 in income each year. How much should you have saved in your retirement account to receive this income if the annual interest rate is 9 percent per year? (Assume that the payments start on the day of your retirement.)
   1. \_\_\_\_\_\_

$2,043,750.21

$802,995.88

$1,427,831.93

$736,693.47

1. Mega Corporation has the following returns for the past three years: 7 percent, 13 percent, and 10 percent. Use the following formulas to calculate the variance of the returns and the standard deviation of the returns:  
   Varianceformula4.mml= expected value offormula3.mml  
   Standard deviation offormula2.mml.
   1. \_\_\_\_\_\_

124.00 and 11.10 percent

6.00 and 2.45 percent

30.00 and 10.00 percent

64.00 and 8.00 percent

1. Suppose the beta of Amazon is 2.2, the risk-free rate is 5.5 percent, and the market risk premium is 8 percent. Calculate the expected rate of return for Amazon.
   1. \_\_\_\_\_\_

14.3 percent

23.1 percent

15.8 percent

35.2 percent

1. Stock A has an expected return of 10 percent per year and Stock B has an expected return of 20 percent. If 40 percent of a portfolio's funds are invested in Stock A and the rest in Stock B, what is the expected return on the portfolio of Stock A and Stock B?
   1. \_\_\_\_\_\_

10 percent

20 percent

14 percent

16 percent

1. Mrs. Koehler has just taken out a $150,000 mortgage at an interest rate of 6 percent per year. If the mortgage calls for equal monthly payments for 20 years, what is the amount of each payment? Assume monthly compounding or discounting.
   1. \_\_\_\_\_\_

$1,625.00

$1,074.65

$1,263.06

$1,254.70

1. The historical nominal returns for Stock A were −8 percent, 10 percent, and 22 percent. The nominal returns for the market portfolio were 6 percent, 18 percent, and 24 percent during this same time. Calculate the beta for Stock A.
   1. \_\_\_\_\_\_

1.64

0.61

0.50

1.00

1. After retirement, you expect to live for 25 years. You would like to have $75,000 in income each year. How much should you have saved in your retirement account to receive this income if the annual interest rate is 9 percent per year? (Assume that the payments start one year after your retirement.)
   1. \_\_\_\_\_\_

$1,875,000.00

$83,431.17

$736,693.47

$1,213,487.12

1. According to the CAPM, all investments plot along the security market line.
   1. \_\_\_\_\_\_

* true
* false

1. Suppose you invest equal amounts in a portfolio with an expected return of 16 percent and a standard deviation of returns of 18 percent and a risk-free asset with an interest rate of 4 percent.  
   Calculate the expected return on the resulting portfolio.
   1. \_\_\_\_\_\_

4 percent

9 percent

12 percent

10 percent

1. The annual returns for three years for Stock B were 0 percent, 10 percent, and 26 percent. Annual returns for three years for the market portfolio were 6 percent, 18 percent, and 24 percent. Calculate the beta for the stock.
   1. \_\_\_\_\_\_

1.36

1.00

0.74

0.75

1. The correlation coefficient between a stock and the market portfolio is 0.6. The standard deviation of return of the stock is 30 percent and that of the market portfolio is 20 percent. Calculate the beta of the stock.
   1. \_\_\_\_\_\_

1.0

1.1

0.6

0.9

1. If the standard deviation of returns on the market is 20 percent, and the beta of a well-diversified portfolio is 1.5, calculate the standard deviation of this portfolio.
   1. \_\_\_\_\_\_

20 percent.

30 percent.

10 percent.

15 percent.

1. An efficient portfolio:
   1. \_\_\_\_\_\_

provides the highest expected return for a given level of risk.

has no risk at all.

has only unique risk.

provides the highest expected return for a given level of risk and provides the least risk for a given level of expected return.

1. Stock X has a standard deviation of return of 10 percent. Stock Y has a standard deviation of return of 20 percent. The correlation coefficient between the two stocks is 0.5. If you invest 60 percent of your funds in Stock X and 40 percent in Stock Y, what is the standard deviation of your portfolio?
   1. \_\_\_\_\_\_

21.0 percent

10.3 percent

14.8 percent

12.2 percent