1) If you multiply a 2x3 and a 2x4 matrix the resulting matrix will have dimensions of
   a. 3x2
   b. 2x4
   c. 2x2
   d. 3x4
   e. Can not do the multiplication

For the following two questions: Consider the following two investment alternatives. A risky portfolio that pays a 15% rate of return with a probability of 60% or a 5% return with a probability of 40% and a T-bill that pays 6%.

2) The risk premium on the risky investment is
   a. 11 percent.
   b. 1 percent.
   c. 9 percent.
   d. 5 percent.
   e. none of the above.

3) If you invest $50,000 in the risky portfolio, your expected profit would be
   ___________________.
   a. $5,500
   b. $7,500
   c. $25,000
   d. $3,000
   e. none of the above

4) Buyers of call options anticipate the value of the underlying asset to ____________
   and sellers of put options anticipate the value of the underlying asset to ____________.
   a. increase; increase
   b. decrease; increase
   c. increase; decrease
   d. decrease; decrease

5) The interest rate charged by banks with excess reserves at a Federal Reserve Bank to
   banks needing overnight loans to meet reserve requirements is called ____________.
   a. prime rate
   b. discount rate
   c. federal funds rate
   d. call money rate
   e. money market rate

6) Given the capital allocation line, an investor's optimal portfolio is the portfolio that
   a. maximizes his/her expected profit.
   b. maximizes his/her risk.
   c. minimizes both his/her risk and return.
   d. maximizes her expected utility.
7) An investor invests 40 percent of his wealth in a risky asset with an expected rate of return of 0.15 and a variance of 0.04 and 60 percent in a T-bill that pays 6 percent. Her portfolio's expected return and standard deviation are ________ and __________, respectively.

a. 0.114; 0.12
b. 0.096; 0.08
c. 0.080; 0.12
d. 0.096; 0.10
e. none of the above

For the following 4 questions refer to the information below.

You are considering investing $1,000 in a T-bill that pays 0.05 and a risky portfolio, P, constructed with 2 risky securities, X and Y. The weights of X and Y in P are 0.60 and 0.40, respectively. X has an expected rate of return of 0.14 and variance of 0.01, and Y has an expected rate of return of 0.10 and a variance of 0.0081.

8) If you desire to form a portfolio with an expected rate of return of 0.11, what percentages of your money must you invest in the T-bill and P, respectively?

a. 0.25; 0.75
b. 0.19; 0.81
c. 0.65; 0.35
d. 0.50; 0.50
e. cannot be determined

9) If you desire to form a portfolio with an expected rate of return of 0.10, what percentages of your money must you invest in the T-bill, X, and Y, respectively if you keep X and Y in the same proportions to each other as in portfolio P?

a. 0.25; 0.45; 0.30
b. 0.19; 0.49; 0.32
c. 0.32; 0.41; 0.27
d. 0.50; 0.30; 0.20
e. cannot be determined

10) What would be the dollar values of your positions in X and Y, respectively, if you decide to hold 40% percent of your money in the risky portfolio and 60% in T-bills?

a. $240; $360
b. $360; $240
c. $100; $240
d. $240; $160
e. cannot be determined
11) What would be the dollar value of your positions in X, Y, and the T-bills, respectively, if you decide to hold a portfolio that has an expected outcome of $1,080?
   a. cannot be determined
   b. $243; $162; $595
   c. $595; $162; $243
   d. $595; $243; $162
   e. $162; $595; $243

12) The risk that can be diversified away is
   a. firm specific risk.
   b. beta.
   c. systematic risk.
   d. market risk.
   e. none of the above.

13) 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.

14) Which of the following statement(s) is (are) true regarding the variance of two risky securities' portfolios?
   a. The higher the coefficient of correlation between securities, the greater the reduction in the portfolio variance.
   b. There is a direct relationship between the securities' coefficient of correlation and the portfolio variance.
   c. The degree to which the portfolio variance is reduced depends on the degree of correlation between securities.
   d. a and b.
   e. a and c.

For the following 4 questions refer to the information below.
Consider the following probability distribution for stocks A and B:

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

15) The expected rates of return of stocks A and B are ______ and, respectively.
16) 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

17) The coefficient of correlation between A and B is
   a. 0.46.
   b. 0.60.
   c. 0.58
   d. 1.20.
   e. none of the above.

18) 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

19) The unsystematic risk of a specific security
   a. is likely to be higher in an increasing market.
   b. results from factors unique to the firm.
   c. depends on market volatility.
   d. cannot be diversified away.
   e. none of the above.

20) 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 10-15 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.

21) The optimal portfolio is designated by:
   a. The point of tangency with the indifference curve and the capital allocation line.
b. The point of highest reward to variability ratio in the opportunity set.
c. The point of tangency with the opportunity set and the capital allocation line.
d. The point of the highest reward to variability ratio in the indifference curve.
e. None of the above.

22) For a two-stock portfolio, what would be the preferred correlation coefficient between the two stocks?
a. +1.00.
b. +0.50.
c. 0.00.
d. -1.00.
e. none of the above.

23) In a two-security minimum variance portfolio
a. the security with the higher standard deviation will be weighted more heavily.
b. the security with the higher standard deviation will be weighted less heavily.
c. the two securities will be equally weighted.
d. the risk will be zero.
e. the return will be zero.

24) To determine if the optimum is a max or min
a. check the sign of the first order condition
b. take the second derivative and set it equal to zero
c. take the first derivative and set it equal to zero
d. check the sign of the second derivative
e. b and d
f. c and d

25) Which statement is not true regarding the market portfolio?
a. It includes all assets of the universe.
b. It lies on the efficient frontier.
c. All securities in the market portfolio are held in proportion to their market values.
d. It is the tangency point between the capital market line and the indifference curve.
e. all of the above are true.

26) As diversification increases, the total variance of a portfolio approaches __________________.
a. 0
b. 1
c. systematic risk
d. unsystematic risk
e. none of the above

27) According to the index model, covariance among securities are ____________.
a. due to the influence of a single common factor represented by the market index return
b. extremely difficult to calculate
c. related to industry-specific events
d. usually zero
e. a and d

28) The single-index model
a. greatly reduces the number of required calculations, relative to those required by the Markowitz model.
b. enhances the understanding of systematic versus nonsystematic risk.
c. greatly increases the number of required calculations, relative to those required by the Markowitz model.
d. a and b.
e. b and c.

29) Consider the single-index model. Portfolios A and B have expected returns of 14% and 18%, respectively. The risk-free rate of return is 7%. Portfolio A has a beta of 0.7. If arbitrage opportunities are ruled out, portfolio B must have a beta of ________________.
a. 0.45
b. 1.00
c. 1.10
d. 1.22
e. none of the above

30) A common strategy for passive management is ________________.
 a. creating an index fund
 b. creating a small firm fund
 c. creating an investment club
 d. a and c
 e. b and c

31) The weak form of the efficient market hypothesis asserts that __________.
 a. stock prices do not rapidly adjust to new information contained in past prices or past data
 b. future changes in stock prices cannot be predicted from past prices
 c. technical analysts cannot expect to outperform the market
 d. a and b
 e. b an c

32) The weak form of the efficient market hypothesis contradicts ________________.
 a. technical analysis, but supports fundamental analysis as valid
 b. fundamental analysis, but supports technical analysis as valid
 c. both fundamental analysis and technical analysis
 d. technical analysis, but is silent on the possibility of successful fundamental analysis.
e. none of the above.
33) The ________________ is a measure of the average rate of return an investor will earn if the investor buys the bond now and holds until
a. maturity.
b. current yield
c. dividend yield
d. P/E ratio
e. yield to maturity
f. discount yield

34) All of the following factors affect the price of a stock option except
a. the risk-free rate.
b. the riskiness of the stock.
c. the time to expiration.
d. the expected rate of return on the stock.
e. none of the above.

35) Consider a risky portfolio, A, with an expected rate of return of 0.15 and a standard deviation of 0.15, that lies on a given indifference curve. Which one of the following portfolios might lie on the same indifference curve?

a. E(r) = 0.15; Variance = 0.20
b. E(r) = 0.15; Variance = 0.10
c. E(r) = 0.10; Variance = 0.10
d. E(r) = 0.20; Variance = 0.15

36) To find the optimal risky portfolio of assets an investor should ________ subject to the constraint(s) that ________.

a. Minimize variance; the weights sum to 1
b. Minimize variance; an expected return constraint and the weights sum to 1
c. Maximize expected return; the weights sum to 1
d. Maximize the Sharpe ratio; the weights sum to 1

37) To find a portfolio on the efficient frontier an investor should ________ subject to the constraint(s) that ________.

a. Minimize variance; the weights sum to 1
b. Minimize variance; an expected return constraint and the weights sum to 1
c. Maximize expected return; the weights sum to 1
d. Maximize the Sharpe ratio; the weights sum to 1

38) A single-index model uses ________________ as a proxy for the systematic risk factor.

a. a market index, such as the S&P 500
b. the current account deficit
c. the growth rate in GNP
d. the unemployment rate
e. none of the above
39) According to the index model, covariance among securities are ____________.
a. due to the influence of a single common factor represented by the market index return
b. extremely difficult to calculate
c. related to industry-specific events
d. usually positive
e. a and d

40) A preferred stock will pay a dividend of $4.50 in the upcoming year, and every year thereafter, i.e., dividends are not expected to grow. You require a return of 8% on this stock. Use the constant growth DDM to calculate the value of this preferred stock.
a. $0.36
b. $0.56
c. $36.00
d. $56.25
e. none of the above

41) A coupon bond which pays interest annually, has a par value of $1,000, matures in 5 years, and has a yield to maturity of 9%. The value of the bond today will be _________ if the coupon rate is 12%.
a. $922.77
b. $924.16
c. $1,116.69
d. $1,077.20
e. none of the above

42) You are considering investing in a U.S. Treasury note that pays $80 in interest per year and $1000 at maturity two years from now. Assume annual coupons. If the yield to maturity on the note is 8%, what is its current price?
a. $900
b. $1000
c. $1100
d. Cant tell

43) At what price would the note sell for today if the market interest rate is 6% per year?
a. $1000
b. $1,063.76
c. $1,036.67
d. $1,025.00
1) a
2) d
3) a
4) a
5) c
6) d
7) b
8) b
9) c
10) d
11) b
12) a
13) c
14) c
15) c
16) d
17) a
18) b
19) b
20) d
21) a
22) d
23) b
24) c
25) d
26) c
27) a
28) d
29) c
30) a
31) e
32) d
33) e
34) d
35) c
36) d
37) a
38) a
39) e
40) d
41) c
42) b
43) c