

### Question #1 of 200

Question ID: 415002

Which of the following statements *best* describes an investment that is not on the efficient frontier?

- ☐ A) The portfolio has a very high return.
- ☐ B) There is a portfolio that has a lower return for the same risk.
- ☒ C) There is a portfolio that has a lower risk for the same return.

#### Explanation

The efficient frontier outlines the set of portfolios that gives investors the highest return for a given level of risk or the lowest risk for a given level of return. Therefore, if a portfolio is not on the efficient frontier, there must be a portfolio that has lower risk for the same return. Equivalently, there must be a portfolio that produces a higher return for the same risk.

#### References

**Question From:** Session 12 > Reading 42 > LOS g

#### **Related Material:**

- Key Concepts by LOS

### Question #2 of 200

Question ID: 415075

The following information is available for the stock of Park Street Holdings:

- The price today ( $P_0$ ) equals \$45.00.
- The expected price in one year ( $P_1$ ) is \$55.00.
- The stock's beta is 2.31.
- The firm typically pays no dividend.
- The 3-month Treasury bill is yielding 4.25%.
- The historical average S&P 500 return is 12.5%.

Park Street Holdings stock is:

- ☐ A) undervalued by 1.1%.
- ☐ B) undervalued by 3.7%.
- ☒ C) overvalued by 1.1%.

#### Explanation

To determine whether a stock is overvalued or undervalued, we need to compare the expected return (or holding period return) and the required return (from Capital Asset Pricing Model, or CAPM).

**Step 1: Calculate Expected Return (Holding period return):**

The formula for the (one-year) holding period return is:

Explanation

$HPR = (D_1 + S_1 - S_0) / S_0$ , where D = dividend and S = stock price.  
 $Covariance = \{\sum[(Return_X - Mean_X)(Return_Y - Mean_Y)]\} / (n - 1)$

Here,  $HPR = (0 + 55 - 45) / 45 = 22.2\%$   
 $Mean_X = (7 + 9 + 10 + 10) / 4 = 9$ ;  $Mean_Y = (5 + 8 + 11 + 8) / 4 = 8$

**Step 2: Calculate Required Return:**

$Cov_{X,Y} = [(7 - 9)(5 - 8) + (9 - 9)(8 - 8) + (10 - 9)(11 - 8) + (10 - 9)(8 - 8)] / (4 - 1) = 3.0$

The formula for the required return is from the CAPM:

References

$RR = R_f + (ER_M - R_f) \times \text{Beta}$   
**Question From:** Session 12 > Reading 42 > LOS c  
 $RR = 4.25\% + (12.5 - 4.25\%) \times 2.31 = 23.3\%$ .

**Related Material:**

**Step 3: Determine over/under valuation:**

- Key Concepts by LOS

The required return is greater than the expected return, so the security is overvalued.

The amount =  $23.3\% - 22.2\% = 1.1\%$ .

References

**Question From:** Session 12 > Reading 43 > LOS h

**Related Material:**

- Key Concepts by LOS

## Question #3 of 200

Question ID: 598981

An objective of the risk management process is to:

- X **A)** eliminate the risks faced by an organization.
- ✓ **B)** identify the risks faced by an organization.
- X **C)** minimize the risks faced by an organization.

Explanation

The risk management process should identify an organization's risk tolerance, identify the risks it faces, and monitor or address these risks. The goal is not to minimize or eliminate risks.

References

**Question From:** Session 12 > Reading 41 > LOS a

**Related Material:**

- Key Concepts by LOS

## Question #4 of 200

Question ID: 414966

An analyst gathered the following data for Stock A and Stock B:

Time Period	Stock A Returns	Stock B Returns
1	10%	15%
2	6%	9%
3	8%	12%

What is the covariance for this portfolio?

- ☐ A) 12.  
☒ B) 6.  
☐ C) 3.

#### Explanation

The formula for the covariance for historical data is:

$$\text{cov}_{1,2} = \{\Sigma[(R_{\text{stock A}} - \text{Mean } R_A)(R_{\text{stock B}} - \text{Mean } R_B)]\} / (n - 1)$$

$$\text{Mean } R_A = (10 + 6 + 8) / 3 = 8, \text{ Mean } R_B = (15 + 9 + 12) / 3 = 12$$

$$\text{Here, cov}_{1,2} = [(10 - 8)(15 - 12) + (6 - 8)(9 - 12) + (8 - 8)(12 - 12)] / 2 = 6$$

#### References

**Question From:** Session 12 > Reading 42 > LOS c

#### Related Material:

- Key Concepts by LOS

## Question #5 of 200

Question ID: 598992

A portfolio manager uses a computer model to estimate the effect on a portfolio's value from both a 3% increase in interest rates and a 5% depreciation in the euro relative to the yen. The manager is *most accurately* described as engaging in:

- ☐ A) stress testing.  
☐ B) risk shifting.  
☒ C) scenario analysis.

#### Explanation

Stock	Price Today	Forecast Price*	Dividend	Beta
Alpha	25	31	2	1.6
Omega	105	110	1	1.2
Lambda	10	10.80	0	0.5

Scenario analysis involves modeling the effects of changes in multiple inputs at the same time. Stress testing examines the effects of changes in a single input. Risk shifting refers to managing a risk by modifying the distribution of outcomes.

#### References

**Question From:** Session 12 > Reading 41 > LOS g  
\* Expected price one year from today.

#### Related Material:

The expected return on the market is 12% and the risk-free rate is 4%. Assuming that capital markets are in equilibrium, what

## Question #6 of 200

Question ID: 414950

Which of the following actions is *best* described as taking place in the execution step of the portfolio management process?

- ✓ **A)** Choosing a target asset allocation.
- X **B)** Developing an investment policy statement.
- X **C)** Rebalancing the portfolio.

### Explanation

The three major steps in the portfolio management process are (1) planning, (2) execution, and (3) feedback. The planning step includes evaluating the investor's needs and preparing an investment policy statement. The execution step includes choosing a target asset allocation, evaluating potential investments based on top-down or bottom-up analysis, and constructing the portfolio. The feedback step includes measuring and reporting performance and monitoring and rebalancing the portfolio.

### References

**Question From:** Session 12 > Reading 40 > LOS d

### **Related Material:**

- Key Concepts by LOS
- 

## Question #7 of 200

Question ID: 414975

If the standard deviation of stock A is 7.2%, the standard deviation of stock B is 5.4%, and the covariance between the two is -0.0031, what is the correlation coefficient?

- X **A)** -0.19.
- ✓ **B)** -0.80.
- X **C)** -0.64.

### Explanation

The formula is:  $(\text{Covariance of A and B}) / [(\text{Standard deviation of A})(\text{Standard Deviation of B})] = (\text{Correlation Coefficient of A and B}) = (-0.0031) / [(0.072)(0.054)] = -0.797$ .

### References

**Question From:** Session 12 > Reading 42 > LOS c

### **Related Material:**

- Key Concepts by LOS
-

## Question #8 of 200

Question ID: 598984

Which of the following is *least likely* to contribute to effective risk governance?

- ☐ A) An organization should identify its overall risk tolerance and establish a framework for oversight of risk management.
- ☒ B) Decision-makers throughout an organization should consider risk governance a responsibility.
- ☐ C) The risks an organization chooses to pursue, limit, or avoid should reflect the overall goals of the organization.

### Explanation

Senior management should be responsible for risk governance, which includes determining the organization's risk tolerance and its strategy for managing risks in line with the organization's goals.

### References

**Question From:** Session 12 > Reading 41 > LOS c

### **Related Material:**

- Key Concepts by LOS
- 

## Question #9 of 200

Question ID: 414974

If the standard deviation of stock A is 13.2 percent, the standard deviation of stock B is 17.6 percent, and the covariance between the two is 0, what is the correlation coefficient?

- ☐ A) 0.31.
- ☒ B) 0.
- ☐ C) +1.

### Explanation

Since covariance is zero, the correlation coefficient must be zero.

### References

**Question From:** Session 12 > Reading 42 > LOS c

### **Related Material:**

- Key Concepts by LOS
- 

## Question #10 of 200

Question ID: 414973

If the standard deviation of stock A is 10.6%, the standard deviation of stock B is 14.6%, and the covariance between the two is 0.015476, what is the correlation coefficient?

- X A) 0.
- ✓ B) +1.
- X C) 0.0002.

**Explanation:**  $R = R_f + (R_{\text{Market}} - R_f) \times \text{Beta}_{\text{Stock}}$ , where  $RR$  = required return,  $R$  = return,  $R_f$  = risk-free rate, and  $(R_{\text{Market}} - R_f)$  = market premium

The formula is:  $(\text{Covariance of A and B}) / [(\text{Standard deviation of A})(\text{Standard Deviation of B})] = (\text{Correlation Coefficient of A and B})$

$$R_{\text{Stock}} = (0.015476) + [(0.106)(0.146)] \times 9.6 = 13.6\%$$

### References

**Question From:** Session 12 > Reading 42 > LOS b

**Related Material:**

- Key Concepts by LOS

## Question #11 of 200

Question ID: 415026

An equally weighted portfolio of a risky asset and a risk-free asset will exhibit:

- ✓ A) half the returns standard deviation of the risky asset.
- X B) less than half the returns standard deviation of the risky asset.
- X C) more than half the returns standard deviation of the risky asset.

### Explanation

A risk free asset has a standard deviation of returns equal to zero and a correlation of returns with any risky asset also equal to zero. As a result, the standard deviation of returns of a portfolio of a risky asset and a risk-free asset is equal to the weight of the risky asset multiplied by its standard deviation of returns. For an equally weighted portfolio, the weight of the risky asset is 0.5 and the portfolio standard deviation is  $0.5 \times$  the standard deviation of returns of the risky asset.

### References

**Question From:** Session 12 > Reading 43 > LOS a

**Related Material:**

- Key Concepts by LOS

## Question #12 of 200

Question ID: 414985

Assets A (with a variance of 0.25) and B (with a variance of 0.40) are perfectly positively correlated. If an investor creates a portfolio using only these two assets with 40% invested in A, the portfolio standard deviation is *closest* to:

- X B)
- X C)

- X A) 0.3742.
- ✓ B) 0.5795.
- X C) 0.3400.

Explanation

The portfolio standard deviation =  $[(0.4)^2(0.25) + (0.6)^2(0.4) + 2(0.4)(0.6)1(0.25)^{0.5}(0.4)^{0.5}]^{0.5} = 0.5795$

References

**Question From:** Session 12 > Reading 42 > LOS e

**Related Material:**

- Key Concepts by LOS
- 

**Question #13 of 200**

Question ID: 598987

Risk management within an organization should *most appropriately* consider:

- X A) financial risks independently of non-financial risks.
- ✓ B) interactions among different risks.
- X C) internal risks independently of external risks.

Explanation

The various financial and non-financial risks interact in many ways. A risk management process should consider these interactions among risks rather than treating them each in isolation.

References

**Question From:** Session 12 > Reading 41 > LOS f

**Related Material:**

- Key Concepts by LOS
- 

**Question #14 of 200**

Question ID: 415086

Which of the following is NOT a rationale for the importance of the policy statement in investing? It:

- X A) helps investors understand the risks and costs of investing.
- ✓ B) identifies specific stocks the investor may wish to purchase.
- X C) forces investors to understand their needs and constraints.

Adding a stock to a portfolio will reduce the risk of the portfolio if the correlation coefficient is *less* than which of the following?

Explanation

The policy statement outlines broad objectives and constraints but does not get into the details of specific stocks for investment.

## References

Question From: Session 12 > Reading 44 > LOS a

## Related Material:

- Key Concepts by LOS
- Adding any stock that is not perfectly correlated with the portfolio (+1) will reduce the risk of the portfolio.

## References

### Question #15 of 200

Question ID: 415084

An investor believes Stock M will rise from a current price of \$20 per share to a price of \$26 per share over the next year. The company is not expected to pay a dividend. The following information pertains:

- $R_F = 8\%$
- $ER_M = 16\%$
- Beta = 1.7

Should the investor purchase the stock?

- ✓ **A)** Yes, because it is undervalued.
- X **B)** No, because it is overvalued.
- X **C)** No, because it is undervalued.

## Explanation

In the context of the SML, a security is underpriced if the required return is less than the holding period (or expected) return, is overpriced if the required return is greater the holding period (or expected) return, and is correctly priced if the required return equals the holding period (or expected) return.

Here, the holding period (or expected) return is calculated as:  $(\text{ending price} - \text{beginning price} + \text{any cash flows/dividends}) / \text{beginning price}$ . The required return uses the equation of the SML:  $\text{risk free rate} + \text{Beta} \times (\text{expected market rate} - \text{risk free rate})$ .

$ER = (26 - 20) / 20 = 0.30$  or 30%,  $RR = 8 + (16 - 8) \times 1.7 = 21.6\%$ . The stock is underpriced therefore purchase.

## References

Question From: Session 12 > Reading 43 > LOS h

## Related Material:

- Key Concepts by LOS

### Question #16 of 200

Question ID: 467275

A bond analyst is looking at historical returns for two bonds, Bond 1 and Bond 2. Bond 2's returns are much more volatile than Bond 1. The variance of returns for Bond 1 is 0.012 and the variance of returns of Bond 2 is 0.308. The correlation between the returns of the two bonds is 0.79, and the covariance is 0.048. If the variance of Bond 1 increases to 0.026 while the variance of Bond 2 decreases to 0.188 and the covariance remains the same, the correlation between the two bonds will:



- X **A)** remain the same.
- ✓ **B)** decrease.
- X **C)** increase.

Explanation

$P_{1,2} = 0.048 / (0.026^{0.5} \times 0.188^{0.5}) = 0.69$  which is lower than the original 0.79.

References

**Question From:** Session 12 > Reading 42 > LOS c

**Related Material:**

- Key Concepts by LOS
- 

**Question #17 of 200**

Question ID: 415019

The particular portfolio on the efficient frontier that best suits an individual investor is determined by:

- ✓ **A)** the individual's utility curve.
- X **B)** the current market risk-free rate as compared to the current market return rate.
- X **C)** the individual's asset allocation plan.

Explanation

The *optimal portfolio* for each investor is the highest indifference curve that is tangent to the efficient frontier. The optimal portfolio is the portfolio that gives the investor the greatest possible utility.

References

**Question From:** Session 12 > Reading 42 > LOS h

**Related Material:**

- Key Concepts by LOS
- 

**Question #18 of 200**

Question ID: 415057

Given the following data, what is the correlation coefficient between the two stocks and the Beta of stock A?

- standard deviation of returns of Stock A is 10.04%
- standard deviation of returns of Stock B is 2.05%
- standard deviation of the market is 3.01%
- covariance between the two stocks is 0.00109
- covariance between the market and stock A is 0.002

Correlation Coefficient   Beta (stock A)

- ✓ **A)** 0.5296                      2.20
- X **B)** 0.6556                      2.20
- X **C)** 0.5296                      0.06

Explanation

correlation coefficient =  $0.00109 / (0.0205)(0.1004) = 0.5296$ .

beta of stock A = covariance between stock and the market / variance of the market

Beta =  $0.002 / 0.0301^2 = 2.2$

References

**Question From:** Session 12 > Reading 43 > LOS e

**Related Material:**

- Key Concepts by LOS

**Question #19 of 200**

Question ID: 710153

Which of the following statements regarding the covariance of rates of return is *least* accurate?

- X **A)** Covariance is not a very useful measure of the strength of the relationship between rates of return.
- X **B)** Covariance is positive if two variables tend to both be above their mean values in the same time periods.
- ✓ **C)** If the covariance is negative, the rates of return on two investments will always move in different directions relative to their means.

Explanation

Negative covariance means rates of return for one security will tend to be above its mean return in periods when the other is below its mean return, and vice versa. Positive covariance means that returns on both securities will tend to be above (or below) their mean returns in the same time periods. For the returns to *always* move in opposite directions, they would have to be perfectly negatively correlated. Negative covariance by itself does not imply anything about the strength of the negative correlation, it must be standardized by dividing by the product of the securities' standard deviations of return.

References

**Question From:** Session 12 > Reading 42 > LOS c

**Related Material:**

- Key Concepts by LOS

**Question #20 of 200**

Question ID: 710160

For a stock with a beta of 1.25, what is its expected return according to the CAPM when the risk-free rate is 6% and the expected rate of return on the market is 12%?

- X **A)** 10%.
- ✓ **B)** 13.5%.
- X **C)** 31%.

Explanation

$$\begin{aligned}k &= 6 + 1.25 (12 - 6) \\&= 6 + 1.25(6) \\&= 6 + 7.5 \\&= 13.5\end{aligned}$$

References

**Question From:** Session 12 > Reading 43 > LOS g

**Related Material:**

- Key Concepts by LOS
- 

**Question #21 of 200**

Question ID: 415070

What is the expected rate of return on a stock that has a beta of 1.4 if the market risk premium is 9% and the risk-free rate is 4%?

- ✓ **A)** 16.6%.
- X **B)** 11.0%.
- X **C)** 13.0%.

Explanation

Using the security market line (SML) equation:

$$4\% + 1.4(9\%) = 16.6\%.$$

References

**Question From:** Session 12 > Reading 43 > LOS g

**Related Material:**

- Key Concepts by LOS
- 

**Question #22 of 200**

Question ID: 414980

A stock has an expected return of 4% with a standard deviation of returns of 6%. A bond has an expected return of 4% with a

standard deviation of 7%. An investor who prefers to invest in the stock rather than the bond is *best* described as:

- ☐ A) risk neutral.
- ☐ B) risk seeking.
- ☒ C) risk averse.

Explanation

This statement should read, "If two assets have perfect negative correlation, it is possible to reduce the portfolio's overall variance to zero." Given two investments with the same expected return, a risk averse investor will prefer the investment with less risk. A risk neutral investor will be indifferent between the two investments. A risk seeking investor will prefer the investment with more risk.

References

**Question From:** Session 12 > Reading 42 > LOS f  
**Question From:** Session 12 > Reading 42 > LOS d

**Related Material:**

- Key Concepts by LOS
- Key Concepts by LOS

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## Question #23 of 200

Question ID: 414955

The *most appropriate* measure of the increase in the purchasing power of a portfolio's value over a given span of time is a(n):

- ☐ A) after-tax return.
- ☒ B) real return.
- ☐ C) holding period return.

Explanation

A real return is adjusted for the effects of inflation and is used to measure the increase in purchasing power over time.

References

**Question From:** Session 12 > Reading 42 > LOS a

**Related Material:**

- Key Concepts by LOS

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## Question #24 of 200

Question ID: 414993

As the correlation between the returns of two assets becomes lower, the risk reduction potential becomes:

- ☐ A) smaller.
- ☒ B) greater.
- ☐ C) decreased by the same level.

A stock that plots below the Security Market Line *most likely*:

Explanation

Perfect positive correlation ( $r = +1$ ) of the returns of two assets offers no risk reduction, whereas perfect negative correlation ( $r = -1$ ) offers the greatest risk reduction.

References  
is below the efficient frontier.

**Question From:** Session 12 > Reading 42 > LOS f

Explanation

**Related Material:**

Since the equation of the SML is the capital asset pricing model, you can determine if a stock is over- or underpriced

graphically or mathematically. Your answers will always be the same.

Graphically: if you plot a stock's expected return on the SML and it falls below the line, it indicates that the stock is currently overvalued, causing its expected return to be too low. If the plot is above the line, it indicates that the stock is underpriced. If

## Question #25 of 200

Question ID: 414953

A mutual fund that invests in short-term debt securities and maintains a net asset value of \$1.00 per share is *best* described as a:

- ✓ **A)** money market fund.
- X **B)** balanced fund.
- X **C)** bond mutual fund.

**Related Material:**

Key Concepts by LOS  
Money market funds invest primarily in short-term debt securities and are managed to maintain a constant net asset value, typically one unit of currency per share. A bond mutual fund typically invests in longer-maturity securities than a money market fund. A balanced fund invests in both debt and equity securities.

References

**Question From:** Session 12 > Reading 40 > LOS e

**Related Material:**

- Key Concepts by LOS

## Question #26 of 200

Question ID: 415029

Which of the following is the vertical axis *intercept* for the Capital Market Line (CML)?

- X **A)** Expected return on the portfolio.
- X **B)** Expected return on the market.
- ✓ **C)** Risk-free rate.

Explanation  
A pooled investment fund buys all the shares of a publicly traded company. The fund reorganizes the company and replaces its management team. Three years later, the fund exits the investment through an initial public offering of the company's shares. This pooled investment fund is *best* described as an).

References

**Question From:** Session 12 > Reading 43 > LOS b

**Related Material:**

event-driven fund.

• Key Concepts by LOS

private equity fund.

**Question #27 of 200**

Question ID: 710165

Which of the following is *least likely* one of the minimum requirements of an investment policy statement?

- ☐ A) A benchmark against which to judge performance.
- ☐ B) An investment strategy based on the investor's objectives and constraints.
- ☒ C) Procedures to update the IPS when circumstances change.

**Related Material:**

• Key Concepts by LOS

An investment policy statement should contain a clear statement of client circumstances and constraints, an investment strategy based on these, and some benchmark against which to evaluate the account performance. The investment must periodically update the IPS as circumstances change, but explicit procedures for these updates may not necessarily be included in the IPS itself.

References

**Question From:** Session 12 > Reading 44 > LOS a

**Related Material:**

- Key Concepts by LOS

**Question #28 of 200**

Question ID: 415005

Which one of the following portfolios *cannot* lie on the efficient frontier?

Portfolio	Expected Return	Standard Deviation
A	20%	35%
B	11%	13%
C	8%	10%
D	8%	9%

- ☒ A) Portfolio C.
- ☐ B) Portfolio D.
- ☐ C) Portfolio A.

Consider a stock selling for \$23 that is expected to increase in price to \$27 by the end of the year and pay a \$0.50 dividend. If the risk-free rate is 4%, the expected return on the market is 8.5%, and the stock's beta is 1.9, what is the current valuation of the stock? The stock cannot lie on the frontier because it has the same return as Portfolio D, but has more risk.

References

- ☐ A) is overvalued.

**Question From:** Session 12 > Reading 42 > LOS g

is correctly valued.

**Related Material:**

• Key Concepts by LOS

The required return based on systematic risk is computed as:  $ER_{\text{stock}} = R_f + (ER_M - R_f) \times \text{Beta}_{\text{stock}}$ , or  $0.04 + (0.085 - 0.04) \times 1.0 = 0.1055$ , or 10.6%. The expected return is computed as:  $(D_1 / D_0 + D_1) / D_0 \approx (\$27 / \$22 + \$0.50) / \$22 = 0.1057$ , or

### Question #29 of 200

Question ID: 415025

Which of the following statements about the efficient frontier is *least* accurate?

- ✓ **A)** Investors will want to invest in the portfolio on the efficient frontier that offers the highest rate of return.
- X **B)** Portfolios falling on the efficient frontier are fully diversified.
- X **C)** The efficient frontier shows the relationship that exists between expected return and total risk in the absence of a risk-free asset.

Explanation

The optimal portfolio for each investor is the *highest indifference curve that is tangent to the efficient frontier*.

References

**Question From:** Session 12 > Reading 42 > LOS h

**Related Material:**

- Key Concepts by LOS

### Question #30 of 200

Question ID: 415044

Which of the following is *least likely* considered a source of systematic risk for bonds?

- X **A)** Market risk.
- ✓ **B)** Default risk.
- X **C)** Purchasing power risk.

Explanation

Default risk is based on company-specific or unsystematic risk.

References

**Question From:** Session 12 > Reading 43 > LOS c

**Related Material:**

- Key Concepts by LOS

## Question #31 of 200

Question ID: 434366

An analyst collected the following data for three possible investments.

Stock	Price Today	Forecast Price*	Dividend	Beta
Alpha	25	31	2	1.6
Omega	105	110	1	1.2
Lambda	10	10.80	0	0.5
*Expected price one year from today.				

The expected return on the market is 12% and the risk-free rate is 4%. According to the security market line (SML), which of the three securities is correctly priced?

- X **A)** Alpha.
- X **B)** Omega.
- ✓ **C)** Lambda.

### Explanation

In the context of the SML, a security is underpriced if the required return is less than the holding period (or expected) return, is overpriced if the required return is greater the holding period (or expected) return, and is correctly priced if the required return equals the holding period (or expected) return.

Here, the holding period (or expected) return is calculated as:  $(\text{ending price} - \text{beginning price} + \text{any cash flows} / \text{dividends}) / \text{beginning price}$ . The required return uses the equation of the SML:  $\text{risk free rate} + \text{Beta} \times (\text{expected market rate} - \text{risk free rate})$ .

- For Alpha:  $ER = (31 - 25 + 2) / 25 = 32\%$ ,  $RR = 4 + 1.6 \times (12 - 4) = 16.8\%$ . Stock is underpriced.
- For Omega:  $ER = (110 - 105 + 1) / 105 = 5.7\%$ ,  $RR = 4 + 1.2 \times (12 - 4) = 13.6\%$ . Stock is overpriced.
- For Lambda,  $ER = (10.8 - 10 + 0) / 10 = 8\%$ ,  $RR = 4 + 0.5 \times (12 - 4) = 8\%$ . Stock is correctly priced.

### References

**Question From:** Session 12 > Reading 43 > LOS h

### **Related Material:**

- Key Concepts by LOS

## Question #32 of 200

Question ID: 415051

Beta is a measure of:

- X **A)** total risk.
- ✓ **B)** systematic risk.
- X **C)** company-specific risk.

The correlation coefficient between stocks A and B is 0.75. The standard deviation of stock A's returns is 16% and the standard



Explanation: If stock B's returns is 22%. What is the covariance between stock A and B?

Beta is a measure of systematic risk.

#### References

**Question From:** Session 12 > Reading 43 > LOS e

#### **Related Material:**

- Key Concepts by LOS
- 

### Question #33 of 200

Question ID: 415060

Which of the following is NOT an assumption of capital market theory?

- ☐ A) The capital markets are in equilibrium.
- ☒ B) Investors can lend at the risk-free rate, but borrow at a higher rate.
- ☐ C) Interest rates never change from period to period.

#### Explanation

Capital market theory assumes that investors can borrow or lend at the *risk-free* rate. The other statements are basic assumptions of capital market theory.

#### References

**Question From:** Session 12 > Reading 43 > LOS f

#### **Related Material:**

- Key Concepts by LOS
- 

### Question #34 of 200

Question ID: 414978

Risk aversion means that if two assets have identical expected returns, an individual will choose the asset with the:

- ☒ A) lower risk level.
- ☐ B) higher standard deviation.
- ☐ C) shorter payback period.

#### Explanation

Investors are *risk averse*. Given a choice between assets with equal rates of expected return, the investor will always select the asset with the lowest level of risk. This means that there is a positive relationship between expected returns (ER) and expected risk ( $E_s$ ) and the risk return line (capital market line [CML] and security market line [SML]) is upward sloping.

Explanation: Standard deviation is a way to quantify risk. The payback period is used to evaluate capital projects, not investment returns.

$$\text{Cov}_{1,2} = 0.15 \times 0.16 \times 0.22 = 0.0264 = \text{covariance between A and B.}$$

## References

**Question From:** Session 12 > Reading 42 > LOS d

### Related Material:

- Key Concepts by LOS
- 

## Question #35 of 200

Question ID: 434369

A portfolio's excess return per unit of systematic risk is known as its:

- ☐ A) Jensen's alpha.
- ☒ B) Treynor measure.
- ☐ C) Sharpe ratio.

### Explanation

The Treynor measure is excess return relative to beta. The Sharpe ratio measures excess return relative to standard deviation. Jensen's alpha measures a portfolio's excess return relative to return of a portfolio on the SML that has the same beta.

## References

**Question From:** Session 12 > Reading 43 > LOS h

### Related Material:

- Key Concepts by LOS
- 

## Question #36 of 200

Question ID: 485793

Which of the following pooled investments is *least likely* to employ large amounts of leverage?

- ☒ A) Venture capital fund.
- ☐ B) Global macro hedge fund.
- ☐ C) Private equity buyout fund.

Which of the following statements about portfolio diversification is CORRECT?

### Explanation

☐ A) As the correlation coefficient moves from +1 to zero, the potential for diversification diminishes. Hedge funds and buyout firms typically employ high leverage to acquire assets. Venture capital typically involves an equity interest.  
☒ B) When a risk-averse investor is confronted with two investment opportunities having the same expected return, the investor will take the opportunity with the lower risk.

## References

- ☐ C) The efficient frontier represents individual securities.

**Question From:** Session 12 > Reading 40 > LOS e

### Explanation

### Related Material:

The other statements are false. The lower the correlation coefficient; the greater the potential for diversification. Efficient portfolios lie on the efficient frontier.

- Key Concepts by LOS

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## References

### Question #37 of 200

Question ID: 414989

Two assets are perfectly positively correlated. If 30% of an investor's funds were put in the asset with a standard deviation of 0.3 and 70% were invested in an asset with a standard deviation of 0.4, what is the standard deviation of the portfolio?

- ☐ A) 0.426.
- ☒ B) 0.370.
- ☐ C) 0.151.

## Explanation

$\sigma_{\text{portfolio}} = [W_1^2\sigma_1^2 + W_2^2\sigma_2^2 + 2W_1W_2\sigma_1\sigma_2r_{1,2}]^{1/2}$  given  $r_{1,2} = +1$

$\sigma = [W_1^2\sigma_1^2 + W_2^2\sigma_2^2 + 2W_1W_2\sigma_1\sigma_2]^{1/2} = (W_1\sigma_1 + W_2\sigma_2)^{1/2}$

$\sigma = (W_1\sigma_1 + W_2\sigma_2) = (0.3)(0.3) + (0.7)(0.4) = 0.09 + 0.28 = 0.37$

## References

**Question From:** Session 12 > Reading 42 > LOS e

### Related Material:

- Key Concepts by LOS
- 

### Question #38 of 200

Question ID: 415049

The market model of the expected return on a risky security is *best* described as a(n):

- ☐ A) arbitrage-based model.
- ☐ B) two-factor model.
- ☒ C) single-factor model.

## Explanation

The market model is a single-factor model. The single factor is the expected excess return on the market portfolio, or  $[E(R_m) - RFR]$ .

## References

**Question From:** Session 12 > Reading 43 > LOS d

### Related Material:

- Key Concepts by LOS
- 

### Question #39 of 200

Question ID: 414949

In the top-down approach to asset allocation, industry analysis should be conducted before company analysis because:

- ✓ **A)** an industry's prospects within the global business environment are a major determinant of how well individual firms in the industry perform.
- X **B)** most valuation models recommend the use of industry-wide average required returns, rather than individual returns.
- X **C)** the goal of the top-down approach is to identify those companies in non-cyclical industries with the lowest P/E ratios.

#### Explanation

In general, an industry's prospects within the global business environment determine how well or poorly individual firms in the industry do. Thus, industry analysis should precede company analysis. The goal is to find the best companies in the most promising industries; even the best company in a weak industry is not likely to perform well.

#### References

**Question From:** Session 12 > Reading 40 > LOS d

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #40 of 200**

Question ID: 598985

Which of the following statements about an organization's risk tolerance is *most accurate*?

- X **A)** An organization with low risk tolerance should take steps to reduce each of the risks it identifies.
- ✓ **B)** The financial strength of an organization is one of the factors it should consider when determining its risk tolerance.
- X **C)** Risk tolerance is the degree to which an organization is able to bear the various risks that may arise from outside the organization.

#### Explanation

Financial strength is an important factor in an organization's risk tolerance because it reflects the organization's ability to withstand losses. Even if its risk tolerance is low, an organization may choose to bear some risks that are consistent with achieving the organization's objectives. Risk tolerance includes risks that arise from within the organization as well as risks from outside.

#### References

**Question From:** Session 12 > Reading 41 > LOS d

#### **Related Material:**

- Key Concepts by LOS
-

## Question #41 of 200

Question ID: 415094

A return objective is said to be relative if the objective is:

- X **A)** stated in terms of probability.
- X **B)** compared to a specific numerical outcome.
- ✓ **C)** based on a benchmark index or portfolio.

### Explanation

Relative return objectives are stated relative to specified benchmarks, such as LIBOR or the return on a stock index. Absolute return objectives are stated in terms of specific numerical outcomes, such as a 5% return. *Risk* objectives (either absolute or relative) may be stated in terms of probability, such as "no more than a 5% probability of a negative return."

### References

**Question From:** Session 12 > Reading 44 > LOS c

### **Related Material:**

- Key Concepts by LOS
- 

## Question #42 of 200

Question ID: 415035

Portfolios that represent combinations of the risk-free asset and the market portfolio are plotted on the:

- ✓ **A)** capital market line.
- X **B)** capital asset pricing line.
- X **C)** utility curve.

### Explanation

The introduction of a risk-free asset changes the Markowitz efficient frontier into a straight line. This straight efficient frontier line is called the capital market line (CML). Investors at point  $R_f$  have 100% of their funds invested in the risk-free asset. Investors at point M have 100% of their funds invested in market portfolio M. Between  $R_f$  and M, investors hold both the risk-free asset and portfolio M. To the right of M, investors hold more than 100% of portfolio M. *All investors have to do to get the risk and return combination that suits them is to simply vary the proportion of their investment in the risky portfolio M and the risk-free asset.*

Utility curves reflect individual preferences.

### References

**Question From:** Session 12 > Reading 43 > LOS b

### **Related Material:**

- Key Concepts by LOS
-

## Question #43 of 200

Question ID: 415096

Which of the following statements about risk is NOT correct? Generally, greater:

- ☐ A) insurance coverage allows for greater risk.
- ☐ B) existing wealth allows for greater risk.
- ☒ C) spending needs allows for greater risk.

### Explanation

Greater spending needs usually allow for *lower* risk because there is a definite need to ensure that the return may adequately fund the spending needs (a "fixed" cost).

### References

**Question From:** Session 12 > Reading 44 > LOS d

### **Related Material:**

- Key Concepts by LOS
- 

## Question #44 of 200

Question ID: 414976

If the standard deviation of returns for stock A is 0.60 and for stock B is 0.40 and the covariance between the returns of the two stocks is 0.009 what is the correlation between stocks A and B?

- ☒ A) 0.0375.
- ☐ B) 0.0020.
- ☐ C) 26.6670.

### Explanation

$\text{Cov}_{A,B} = (r_{A,B})(SD_A)(SD_B)$ , where  $r$  = correlation coefficient and  $SD_x$  = standard deviation of stock  $x$

Then,  $(r_{A,B}) = \text{Cov}_{A,B} / (SD_A \times SD_B) = 0.009 / (0.600 \times 0.400) = 0.0375$

### References

**Question From:** Session 12 > Reading 42 > LOS c

### **Related Material:**

- Key Concepts by LOS
- 

## Question #45 of 200

Question ID: 434362

Identifying a benchmark for a client portfolio is *most likely* to be part of the:

- ☐ A) feedback step.

- ✓ **B)** planning step.
- X **C)** execution step.

#### Explanation

Identification of the client's benchmark would be established in the planning step, to allow assessment of performance in the feedback step.

#### References

**Question From:** Session 12 > Reading 40 > LOS d

**Related Material:**

- Key Concepts by LOS
- 

### Question #46 of 200

Question ID: 415105

An endowment is required by statute to pay out a minimum percentage of its asset value each period to its beneficiaries. This investment constraint is *best* classified as:

- X **A)** unique circumstances.
- ✓ **B)** legal and regulatory.
- X **C)** liquidity.

#### Explanation

Legal and regulatory constraints are those that apply to an investor by law.

#### References

**Question From:** Session 12 > Reading 44 > LOS e

**Related Material:**

- Key Concepts by LOS
- 

### Question #47 of 200

Question ID: 415104

An individual investor specifies to her investment advisor that her portfolio must produce a minimum amount of cash each period. This investment constraint is *best* classified as:

- ✓ **A)** liquidity.
- X **B)** unique circumstances.
- X **C)** legal and regulatory.

#### Explanation

- X **A)** lowest risk.

Liquidity constraints arise from an investor's need for spendable cash.

highest return.

highest utility.  
**Question From:** Session 12 > Reading 44 > LOS e

**Related Material:**

The Key Concept by LOS  
The key concept in the Markowitz framework occurs when the investor achieves the diversified portfolio with the highest utility.

References

**Question #48 of 200**

Question ID: 710162

Mason Snow, CFA, is considering two stocks: Bahre (with an expected return of 10% and a beta of 1.4) and Cubb (with an expected return of 15% and a beta of 2.0). Snow uses a risk-free of 7% and estimates that the market risk premium is 4%. Based on capital market theory, Snow should conclude that:

- X **A)** only Bahre is underpriced.
- X **B)** only Cubb is underpriced.
- ✓ **C)** neither security is underpriced.

Explanation

In the context of the SML, a security is underpriced if the required return is less than the holding period (or expected) return, is overpriced if the required return is greater the holding period (or expected) return, and is correctly priced if the required return equals the holding period (or expected) return.

Bahre: Expected return = 10% < CAPM Required return  $R = 0.07 + (1.4)(0.11 - 0.07) = 12.6\%$  and is overpriced.

For Cubb: Expected return = 15% = CAPM Required return  $= 0.07 + (2.0)(0.11 - 0.07) = 15\%$ .

References

**Question From:** Session 12 > Reading 43 > LOS h

**Related Material:**

- Key Concepts by LOS

**Question #49 of 200**

Question ID: 415037

In the context of the CML, the market portfolio includes:

- ✓ **A)** all existing risky assets.
- X **B)** 12-18 stocks needed to provide maximum diversification.
- X **C)** the risk-free asset.

Which of the following portfolios falls below the Markowitz efficient frontier?

Explanation

The market portfolio has to contain all the stocks, bonds, and risky assets in existence. Because this portfolio has all risky assets in it, it represents the ultimate or completely diversified portfolio.  
1.4%

Portfolio	Expected Return	Expected Standard Deviation
A	11.4%	1.4%



References	9%	26%
Question From: Session 12 > Reading 43 > LOS b	15%	30%
Related Material:	12%	22%

- Key Concepts by LOS

## Question #50 of 200

Question ID: 710152

The ratio of an equally weighted portfolio's standard deviation of return to the average standard deviation of the securities in the portfolio is known as the:

- ✓ **A) diversification ratio.**
- X **B) Sharpe ratio.**
- X **C) relative risk ratio.**

### Explanation

The diversification ratio is calculated by dividing a portfolio's standard deviation of returns by the average standard deviation of returns of the individual securities in the portfolio (sometimes calculated as the average annualized standard deviation of portfolio securities selected at random over the historical measurement period).

### References

**Question From:** Session 12 > Reading 40 > LOS a

**Related Material:**

- Key Concepts by LOS

## Question #51 of 200

Question ID: 414981

Three portfolios have the following expected returns and risk:

<u>Portfolio</u>	<u>Expected return</u>	<u>Standard deviation</u>
Jones	4%	2%
Kelly	6%	5%
Lewis	7%	8%

A risk-averse investor choosing from these portfolios could rationally select:

- ✓ **A) any of these portfolios.**
- X **B) Jones or Kelly, but not Lewis.**
- X **C) Jones, but not Kelly or Lewis.**

✓ **A) D.**  
Explanation  
 X **B) D.**

Risk aversion means that to accept greater risk, an investor must be compensated with a higher expected return. For the three portfolios given, higher risk is associated with higher expected return. Therefore a risk-averse investor may select any of these portfolios. A risk-averse investor will not select a portfolio if another portfolio offers a higher expected return with the same risk, or lower risk with the same expected return. Portfolio B is not on the efficient frontier because it has a lower return, but higher risk, than Portfolio D.

References  
References

**Question From:** Session 12 > Reading 42 > LOS d

**Question From:** Session 12 > Reading 42 > LOS g

**Related Material:**

**Related Material:**

- Key Concepts by LOS
- Key Concepts by LOS

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## Question #52 of 200

Question ID: 604669

The risk of losses caused by human error or faulty processes within an organization is *most accurately* described as:

- ☐ A) model risk.
- ☐ B) solvency risk.
- ☒ C) operational risk.

Explanation

Operational risk arises from faulty processes or human error within the organization.

References

**Question From:** Session 12 > Reading 41 > LOS f

**Related Material:**

- Key Concepts by LOS

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## Question #53 of 200

Question ID: 414999

Which of the following statements about portfolio theory is *least* accurate?

- ☒ A) When the return on an asset added to a portfolio has a correlation coefficient of less than one with the other portfolio asset returns but has the same risk, adding the asset will not decrease the overall portfolio standard deviation.
- ☐ B) Assuming that the correlation coefficient is less than one, the risk of the portfolio will always be less than the simple weighted average of individual stock risks.
- ☐ C) For a two-stock portfolio, the lowest risk occurs when the correlation coefficient is close to negative one.

asset will be:  
Explanation

☒ A) a straight line  
When the return on an asset added to a portfolio has a correlation coefficient of less than one with the other portfolio asset

return to the original risk, adding the asset will decrease the overall portfolio standard deviation. Any time the correlation coefficient is less than one, there are benefits from diversification. The other choices are true.  
a curve that approaches an upper limit.

References  
Explanation

**Question From:** Session 12 > Reading 42 > LOS f

The possible portfolios of a risky asset and a risk-free asset have a linear relationship between expected return and standard

**Related Material:**

Key Concepts by LOS

**Question From:** Session 12 > Reading 43 > LOS a

## Question #54 of 200

Question ID: 710163

The stock of Mia Shoes is currently trading at \$15 per share, and the stock of Video Systems is currently trading at \$18 per share. An analyst expects the prices of both stocks to increase by \$2 over the next year and neither company pays dividends. Mia Shoes has a beta of 0.9 and Video Systems has a beta of (-0.3). If the expected market return is 15% and the risk-free rate is 8%, which trading strategy does the CAPM indicate for these two stocks?

<u>Mia Shoes</u>	<u>Video Systems</u>
------------------	----------------------

X **A)** Buy                      Sell

X **B)** Buy                      Buy

✓ **C)** Sell                      Buy

Explanation

The required return for Mia Shoes is  $0.08 + 0.9 \times (0.15 - 0.08) = 14.3\%$ . The forecast return is  $\$2/\$15 = 13.3\%$ . The stock is overvalued and the investor should sell it. The required return for Video Systems is  $0.08 - 0.3 \times (0.15 - 0.08) = 5.9\%$ . The forecast return is  $\$2/\$18 = 11.1\%$ . The stock is undervalued and the investor should buy it.

References

**Question From:** Session 12 > Reading 43 > LOS h

**Related Material:**

- Key Concepts by LOS

## Question #55 of 200

Question ID: 485796

Portfolios that plot on the security market line in equilibrium:

X **A)** have only systematic (beta) risk.

X **B)** must be well diversified.

✓ **C)** may be concentrated in only a few stocks.

### Explanation

All portfolios plot on the SML in equilibrium according to the capital asset pricing model.

### References

**Question From:** Session 12 > Reading 43 > LOS f

### **Related Material:**

- Key Concepts by LOS
- 

## **Question #56 of 200**

Question ID: 415062

Which is NOT an assumption of capital market theory?

- X **A)** There is no inflation.
- ✓ **B)** Investments are not divisible.
- X **C)** There are no taxes or transaction costs.

### Explanation

Capital market theory assumes that all investments are infinitely divisible. The other statements are basic assumptions of capital market theory.

### References

**Question From:** Session 12 > Reading 43 > LOS f

### **Related Material:**

- Key Concepts by LOS
- 

## **Question #57 of 200**

Question ID: 415048

A model that estimates expected excess return on a security based on the ratio of the firm's book value to its market value is *best* described as a:

- X **A)** market model.
- X **B)** multifactor model.
- ✓ **C)** single-factor model.

### Explanation

- X **A)** The planning step.

A model that estimates a stock's expected excess return based only on the book-to-market ratio is a single-factor model. The

- X **B)** The feedback step.

market model is a single-factor model that estimates expected excess return based on a security's sensitivity to the expected

- ✓ **C)** The execution step.

excess return of the market portfolio. A multifactor model would estimate expected excess return based on more than one factor.

### References

**Question From:** Session 12 > Reading 43 > LOS d

**Related Material:**

**Question From:** Session 12 > Reading 40 > LOS d

**Related Material:**

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## Question #58 of 200

Question ID: 415010

Which of the following statements about the efficient frontier is NOT correct?

- ☐ **A)** A portfolio to the left of the efficient frontier is not attainable, while a portfolio to the right of the efficient frontier is inefficient.
- ☐ **B)** The efficient frontier line bends backwards due to less than perfect correlation between assets.
- ☒ **C)** The slope of the efficient frontier increases steadily as one moves up the curve.

### Explanation

This statement should read, "The slope of the efficient frontier *decreases* steadily as one moves up the curve." The other statements are true.

### References

**Question From:** Session 12 > Reading 42 > LOS g

**Related Material:**

- Key Concepts by LOS
- 

## Question #59 of 200

Question ID: 415103

Which of the following is *least likely* to be considered a constraint when preparing an investment policy statement?

- ☐ **A)** Liquidity needs.
- ☐ **B)** Tax concerns.
- ☒ **C)** Risk tolerance.

### Explanation

The constraints are: liquidity needs, time horizon, taxes, legal and regulatory factors, and unique needs and preferences. Risk tolerance is included in the investment objectives of the policy statement, not in the constraints.

### References

**Question From:** Session 12 > Reading 44 > LOS e

**Related Material:**

- Key Concepts by LOS
-

## Question #60 of 200

Question ID: 415009

Which of the following portfolios falls below the Markowitz efficient frontier?

Portfolio	Expected Return	Expected Standard Deviation
A	12.1%	8.5%
B	14.2%	8.7%
C	15.1%	8.7%

- X **A)** Portfolio A.
- ✓ **B)** Portfolio B.
- X **C)** Portfolio C.

### Explanation

Portfolio B is inefficient (falls below the efficient frontier) because for the same risk level (8.7%), you could have portfolio C with a higher expected return (15.1% versus 14.2%).

### References

**Question From:** Session 12 > Reading 42 > LOS g

### **Related Material:**

- Key Concepts by LOS

## Question #61 of 200

Question ID: 414958

Based on historical data for the United States, compared to long-term bonds, equities have tended to exhibit:

- ✓ **A)** higher average annual returns and higher standard deviation of returns.
- X **B)** higher average annual returns and lower standard deviation of returns.
- X **C)** lower average annual returns and higher standard deviation of returns.

Based on Capital Market Theory, an investor should choose the:

Explanation  
X **A)** market portfolio on the Capital Market Line.  
Based on data for securities in the United States from 1926 to 2008, both small-cap stocks and large-cap stocks have exhibited higher average annual returns and higher standard deviation of returns than long-term corporate bonds and long-term government bonds.  
X **B)** portfolio with the highest return on the Capital Market Line.  
X **C)** portfolio that maximizes his utility on the Capital Market Line.

### References Explanation

**Question From:** Session 12 > Reading 42 > LOS b

Given the Capital Market Line, the investor chooses the portfolio that maximizes his utility. That portfolio may be exactly the

**Related Material:** it may be some combination of the risk-free asset and the market portfolio.

References  
• Key Concepts by LOS

### Question #62 of 200

Question ID: 415059

The expected rate of return is 1.5 times the 16% expected rate of return from the market. What is the beta if the risk free rate is 8%?

- X A) 3.
- ✓ B) 2.
- X C) 4.

#### Explanation

$$24 = 8 + \beta (16 - 8)$$

$$24 = 8 + 8\beta$$

$$16 = 8\beta$$

$$16 / 8 = \beta$$

$$\beta = 2$$

#### References

Question From: Session 12 > Reading 43 > LOS e

#### Related Material:

- Key Concepts by LOS

### Question #63 of 200

Question ID: 415000

Kendra Jackson, CFA, is given the following information on two stocks, Rockaway and Bridgeport.

- Covariance between the two stocks = 0.0325
- Standard Deviation of Rockaway's returns = 0.25
- Standard Deviation of Bridgeport's returns = 0.13

Assuming that Jackson must construct a portfolio using only these two stocks, which of the following combinations will result in the *minimum* variance portfolio?

- X A) 80% in Bridgeport, 20% in Rockaway.
- X B) 50% in Bridgeport, 50% in Rockaway.
- ✓ C) 100% in Bridgeport.

Which one of the following statements about correlation is NOT correct?

#### Explanation

First, calculate the correlation coefficient to check whether diversification will provide any benefit.

- ✓ A) If the correlation coefficient were 0, a zero variance portfolio could be constructed.
- X B) If the correlation coefficient were -1, a zero variance portfolio could be constructed.

$$r_{\text{Bridgeport, Rockaway}} = \text{COV}_{\text{Bridgeport, Rockaway}} / [(s_{\text{Bridgeport}}) \times (s_{\text{Rockaway}})] = 0.0325 / (0.13 \times 0.25) = 1.00$$

- X C) Potential benefits from diversification arise when correlation is less than +1.

Since the stocks are perfectly positively correlated, there are no diversification benefits and we select the stock with the lowest risk (as

Explanation (coefficient of variance or standard deviation), which is Bridgeport.

References coefficient of zero means that there is no relationship between the stock's returns. The other statements are true.

Question From: Session 12 > Reading 42 > LOS g

Related Material Session 12 > Reading 42 > LOS f

Related Materials by LOS

• Key Concepts by LOS

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## Question #64 of 200

Question ID: 415018

A line that represents the possible portfolios that combine a risky asset and a risk free asset is *most accurately* described as a:

- ✓ **A)** capital allocation line.
- X **B)** characteristic line.
- X **C)** capital market line.

### Explanation

The line that represents possible combinations of a risky asset and the risk-free asset is referred to as a capital allocation line (CAL). The capital market line (CML) represents possible combinations of the market portfolio with the risk-free asset. A characteristic line is the best fitting linear relationship between excess returns on an asset and excess returns on the market and is used to estimate an asset's beta.

### References

Question From: Session 12 > Reading 42 > LOS h

Related Material:

- Key Concepts by LOS
- 

## Question #65 of 200

Question ID: 414941

High risk tolerance, a long investment horizon, and low liquidity needs are *most likely* to characterize the investment needs of a(n):

- ✓ **A)** defined benefit pension plan.
- X **B)** insurance company.
- X **C)** bank.

Given the following information, what is the required rate of return on Bin Co?

### Explanation

- inflation premium = 3%
  - real risk-free rate = 2%
  - Bin Co. beta = 1.3
  - market risk premium = 4%
- A defined benefit pension plan typically has a long investment time horizon, low liquidity needs, and high risk tolerance. Insurance companies and banks typically have low risk tolerance and high liquidity needs. Banks and property and casualty insurers typically have short investment horizons.

### References



**Question From:** Session 12 > Reading 40 > LOS b

**Related Material:**

7.6%  
16.7%.

- Key Concepts by LOS

Explanation

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## Question #66 of 200

Question ID: 415034

A portfolio to the right of the market portfolio on the capital market line (CML) is created by:

- ✓ **A)** holding more than 100% of the risky asset.
- X **B)** fully diversifying.
- X **C)** holding both the risk-free asset and the market portfolio.

Explanation

- Key Concepts by LOS

Portfolios that lie to the right of the market portfolio on the capital market line are created by borrowing funds to own more than 100% of the market portfolio (M).

The statement, "holding both the risk-free asset and the market portfolio" refers to portfolios that lie to the *left* of the market portfolio. Portfolios that lie to the left of point M are created by lending funds (or buying the risk free-asset). These investors own less than 100% of both the market portfolio and more than 100% of the risk-free asset. The portfolio at point  $R_f$  (intersection of the CML and the y-axis) is created by holding 100% of the risk-free asset. The statement, "fully diversifying" is incorrect because the market portfolio is fully diversified.

References

**Question From:** Session 12 > Reading 43 > LOS b

**Related Material:**

- Key Concepts by LOS

## Question #67 of 200

Question ID: 415058

The expected rate of return is 2.5 times the 12% expected rate of return from the market. What is the beta if the risk-free rate is 6%?

- X **A)** 5.
- ✓ **B)** 4.
- X **C)** 3.

Which of the following statements about the capital market line (CML) is *least* accurate?

Explanation

- X **A)** Investors choose a portfolio on the CML by varying their weightings of the risk-free asset and the market portfolio.  
 $30 = 6 + \beta(12 - 6)$   
 $24 = 6\beta$
- X **B)** The CML will not be a linear relationship if investors' borrowing and lending rates are not equal.  
 $\beta = 4$

References  
The market portfolio lies on the CML and has only unsystematic risk.

**Question From:** Session 12 > Reading 43 > LOS e

Explanation

**Related Material:**

The first part of this statement is true - the market portfolio does lie on the CML. However, the market portfolio is well diversified and thus has **no unsystematic risk**. The risk that remains is *market risk*, or *nondiversifiable*, or *systematic* risk.

The CML measures standard deviation (or total risk) against returns. The CML will "kink" if the borrowing rate and lending rate are not equal. Investors choose a portfolio on the CML by lending or borrowing at the risk-free rate to vary the weighting of their investments in

## Question #68 of 200

Question ID: 415102

All of the following are investment constraints EXCEPT:

- ☐ A) tax concerns.
- ☐ B) liquidity needs.
- ☒ C) pension plan contributions of the employer.

Explanation

Investment constraints include: liquidity needs, time horizon, tax concerns, legal and regulatory factors and unique needs and preferences. While employer contributions may be of interest, and an issue in some instances, it is not classified as a specific investment constraint.

References

**Question From:** Session 12 > Reading 44 > LOS e

**Related Material:**

- Key Concepts by LOS

## Question #69 of 200

Question ID: 710159

If the risk-free rate of return is 3.5%, the expected market return is 9.5%, and the beta of a stock is 1.3, what is the required return on the stock according to the capital asset pricing model?

- ☐ A) 7.8%.
- ☐ B) 12.4%.
- ☒ C) 11.3%.

Which of the following would be assessed first in a top-down valuation approach?

Explanation

☐ A) Industry risks.  
The formula for the required return is:  $ER_{\text{stock}} = R_f + (E_{\text{RM}} - R_f) \times \text{Beta}_{\text{stock}}$ , or  $0.035 + 1.3(0.095 - 0.035) = 0.113$ , or 11.3%.

☐ B) Fiscal policy.

☐ C) Industry return on equity (ROE).

References

**Question From:** Session 12 > Reading 43 > LOS g

Explanation

**Related Material:**

In a top-down valuation approach, the investor should analyze macroeconomic influences first, then industry influences, and then company influences. Fiscal policy, as part of the macroeconomic landscape, should be analyzed first.

- Key Concepts by LOS

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## References

### Question #70 of 200

Question ID: 414957

Over the long term, the annual returns and standard deviations of returns for major asset classes have shown:

- ☐ A) a negative relationship.
- ☐ B) no clear relationship.
- ☒ C) a positive relationship.

#### Explanation

In most markets and for most asset classes, higher average returns have historically been associated with higher risk (standard deviation of returns).

## References

**Question From:** Session 12 > Reading 42 > LOS b

#### **Related Material:**

- Key Concepts by LOS
- 

### Question #71 of 200

Question ID: 415066

The expected market premium is 8%, with the risk-free rate at 7%. What is the expected rate of return on a stock with a beta of 1.3?

- ☐ A) 16.3%.
- ☒ B) 17.4%.
- ☐ C) 10.4%.

#### Explanation

$RR_{\text{Stock}} = R_f + (R_{\text{Market}} - R_f) \times \text{Beta}_{\text{Stock}}$ , where  $RR$  = required return,  $R$  = return, and  $R_f$  = risk-free rate, and  $(R_{\text{Market}} - R_f)$  = market premium

Here,  $RR_{\text{Stock}} = 7 + (8 \times 1.3) = 7 + 10.4 = 17.4\%$ .

## References

**Question From:** Session 12 > Reading 43 > LOS g

#### **Related Material:**

- Key Concepts by LOS
- 

### Question #72 of 200

Question ID: 414991

A portfolio currently holds Randy Co. and the portfolio manager is thinking of adding either XYZ Co. or Branton Co. to the

portfolio. All three stocks offer the same expected return and total risk. The covariance of returns between Randy Co. and XYZ is +0.5 and the covariance between Randy Co. and Branton Co. is -0.5. The portfolio's risk would decrease:

- X **A)** most if she put half your money in XYZ Co. and half in Branton Co.
- ✓ **B)** more if she bought Branton Co.
- X **C)** more if she bought XYZ Co.

Explanation  
Return-only objectives may actually lead to unacceptable behavior on the part of investment managers, such as excessive trading (churning) to generate excessive commissions.

In portfolio composition questions, return and standard deviation are the key variables. Here you are told that both returns and standard deviations are equal. Thus, you just want to pick the companies with the lowest covariance, because that would mean you picked the ones with the lowest correlation coefficient.

**Question From:** Session 12 > Reading 44 > LOS c

**Related Material:**  
$$\sigma_{\text{Portfolio}} = [W_1^2 \sigma_1^2 + W_2^2 \sigma_2^2 + 2W_1 W_2 \sigma_1 \sigma_2 r_{1,2}]^{1/2}$$
 where  $\sigma_{\text{Randy}} = \sigma_{\text{Branton}} = \sigma_{\text{XYZ}}$  so you want to pick the lowest covariance which is between Randy and Branton.

- Key Concepts by LOS

References

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**Question From:** Session 12 > Reading 42 > LOS f

**Related Material:**

- Key Concepts by LOS

---

## Question #73 of 200

Question ID: 598994

Measures of interest rate sensitivity *least likely* include:

- X **A)** rho.
- X **B)** duration.
- ✓ **C)** beta.

Explanation

Beta measures the market risk of an asset or portfolio. Duration measures the interest rate sensitivity of the value of a fixed-income security or portfolio. Rho measures the interest rate sensitivity of the value of a derivative.

References

**Question From:** Session 12 > Reading 41 > LOS g

**Related Material:**

- Key Concepts by LOS

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## Question #74 of 200

Question ID: 415088

Which of the following *best* describes the importance of the policy statement? It:

- X **A)** limits the risks taken by the investor.
- ✓ **B)** states the standards by which the portfolio's performance will be judged.
- X **C)** outlines the best investments.

#### Explanation

The policy statement should state the performance standards by which the portfolio's performance will be judged and specify the benchmark that represents the investors risk preferences.

#### References

**Question From:** Session 12 > Reading 44 > LOS a

#### **Related Material:**

- Key Concepts by LOS

## Question #75 of 200

Question ID: 414988

An investor calculates the following statistics on her two-stock (A and B) portfolio.

- $\sigma_A = 20\%$
- $\sigma_B = 15\%$
- $r_{A,B} = 0.32$
- $W_A = 70\%$
- $W_B = 30\%$

The portfolio's standard deviation is *closest* to:

- ✓ **A)** 0.1600.
- X **B)** 0.0256.
- X **C)** 0.1832.

The slope of the characteristic line is used to estimate:

#### Explanation

The formula for the standard deviation of a 2-stock portfolio is:

X **A)** risk aversion.

$$s = [W_A^2 \sigma_A^2 + W_B^2 \sigma_B^2 + 2W_A W_B r_{A,B} \sigma_A \sigma_B]^{1/2}$$

X **B)** beta.

$$s = [(0.7^2 \times 0.2^2) + (0.3^2 \times 0.15^2) + (2 \times 0.7 \times 0.3 \times 0.2 \times 0.15 \times 0.32)]^{1/2} = [0.0196 + 0.002025 + 0.004032]^{1/2} = 0.0256570^{1/2} = 0.1602, \text{ or}$$

approximately **16.0%**.

#### Explanation

#### References

Beta for an individual security can be estimated by the slope of its characteristic line, a least-squares regression of the

security's excess returns against the market's excess returns.

#### **Related Material:**

**Question From:** Session 12 > Reading 43 > LOS e

#### **Related Material:**

## Question #76 of 200

Question ID: 415032

The market portfolio in Capital Market Theory is determined by:

- ☐ A) a line tangent to the efficient frontier, drawn from any point on the expected return axis.
- ☒ B) a line tangent to the efficient frontier, drawn from the risk-free rate of return.
- ☐ C) the intersection of the efficient frontier and the investor's highest utility curve.

### Explanation

The Capital Market Line is a straight line drawn from the risk-free rate of return (on the Y axis) through the market portfolio. The market portfolio is determined as where that straight line is exactly tangent to the efficient frontier.

### References

**Question From:** Session 12 > Reading 43 > LOS b

### **Related Material:**

- Key Concepts by LOS
- 

## Question #77 of 200

Question ID: 415098

While assessing an investor's risk tolerance, a financial adviser is *least likely* to ask which of the following questions?

- ☐ A) "Is your home life stable?"
- ☒ B) "What rate of investment return do you expect?"
- ☐ C) "How much insurance coverage do you have?"

### Explanation

While the degree of risk tolerance will have an affect on expected returns, assessing the risk tolerance comes first, and the resulting set of feasible returns follows. The other questions address risk tolerance.

### References

**Question From:** Session 12 > Reading 44 > LOS d

### **Related Material:**

- Key Concepts by LOS
- 

## Question #78 of 200

Question ID: 434368

Which of the following measures produces the same portfolio rankings as the Sharpe ratio but is stated in percentage terms?

- ☐ A) Jensen's alpha.
- ☐ B) Treynor measure.

✓ **C)** M-squared.

#### Explanation

M-squared measures the excess return of a leveraged portfolio relative to the market portfolio and produces the same portfolio rankings as Sharpe ratio.

#### References

**Question From:** Session 12 > Reading 43 > LOS h

#### **Related Material:**

- Key Concepts by LOS
- 

## Question #79 of 200

Question ID: 414986

An investor has a two-stock portfolio (Stocks A and B) with the following characteristics:

- $\sigma_A = 55\%$
- $\sigma_B = 85\%$
- $\text{Covariance}_{A,B} = 0.09$
- $W_A = 70\%$
- $W_B = 30\%$

The variance of the portfolio is *closest* to:

✓ **A)** 0.25

X **B)** 0.54

X **C)** 0.39

#### Explanation

The formula for the *variance* of a 2-stock portfolio is:

$$s^2 = [W_A^2\sigma_A^2 + W_B^2\sigma_B^2 + 2W_AW_B\sigma_A\sigma_B r_{A,B}]$$

Since  $\sigma_A\sigma_B r_{A,B} = \text{Cov}_{A,B}$ , then

$$s^2 = [(0.7^2 \times 0.55^2) + (0.3^2 \times 0.85^2) + (2 \times 0.7 \times 0.3 \times 0.09)] = [0.1482 + 0.0650 + 0.0378] = 0.2511.$$

#### References

**Question From:** Session 12 > Reading 42 > LOS e

#### **Related Material:**

- Key Concepts by LOS
-

## Question #80 of 200

Question ID: 414972

Gregg Goebel and Mason Erikson are studying for the Level I CFA examination. They have just started the section on Portfolio Management and Erikson is having difficulty with the equations for the covariance ( $\text{cov}_{1,2}$ ) and the correlation coefficient ( $r_{1,2}$ ) for two-stock portfolios. Goebel is confident with the material and creates the following quiz for Erikson. Using the information in the table below, he asks Erikson to fill in the question marks.

	Portfolio J	Portfolio K	Portfolio L
Number of Stocks	2	2	2
Covariance	?	$\text{cov}_{1,2} = 0.020$	$\text{cov}_{1,2} = 0.003$
Correlation coefficient	$r_{1,2} = 0.750$	?	?
Risk measure Stock 1	Std. Deviation <sub>1</sub> = 0.08	Std. Deviation <sub>1</sub> = 0.20	Std. Deviation <sub>1</sub> = 0.18
Risk measure Stock 2	Std. Deviation <sub>2</sub> = 0.18	Std. Deviation <sub>2</sub> = 0.12	Variance <sub>2</sub> = 0.09

Which of the following choices correctly gives the covariance for Portfolio J and the correlation coefficients for Portfolios K and L?

	Portfolio J	Portfolio K	Portfolio L
X <b>A)</b>	1.680	0.002	0.076
✓ <b>B)</b>	0.011	0.833	0.056
X <b>C)</b>	0.011	0.002	0.076

### Explanation

The calculations are as follows:

*Portfolio J covariance* =  $\text{cov}_{1,2} = (r_{1,2}) \times (s_1) \times (s_2) = 0.75 \times 0.08 \times 0.18 = 0.0108$ , or 0.011.

*Portfolio K correlation coefficient* =  $(r_{1,2}) = \text{cov}_{1,2} / [(s_1) \times (s_2)] = 0.02 / (0.20 \times 0.12) = 0.833$ .

*Portfolio L correlation coefficient* =  $(r_{1,2}) = \text{cov}_{1,2} / [(s_1) \times (s_2)^{1/2}] = 0.003 / (0.18 \times 0.09^{1/2}) = 0.003 / (0.18 \times 0.30) = 0.056$ .

### References

**Question From:** Session 12 > Reading 42 > LOS c

### Related Material:

- Key Concepts by LOS

## Question #81 of 200

Question ID: 492022

Which of the following statements about risk is NOT correct?

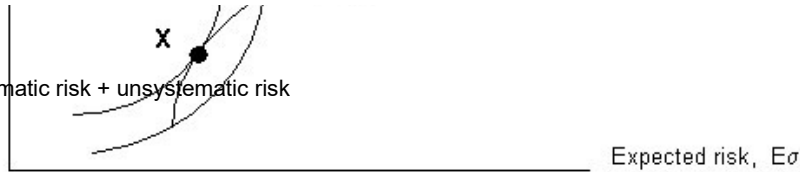


- X **A)** The market portfolio consists only of systematic risk.
- ✓ **B)** Total risk = systematic risk - unsystematic risk.
- X **C)** Unsystematic risk is diversifiable risk.

Explanation

Total risk = systematic risk + unsystematic risk

References



**Question From:** Session 12 > Reading 43 > LOS c

Which of the following statements about the above graph is *least* accurate?

**Related Material:**

- Key Concepts by LOS

## Question #82 of 200

Question ID: 415095

Which of the following factors is *least likely* to affect an investor's risk tolerance?

- X **A)** Level of insurance coverage.
- ✓ **B)** Level of inflation in the economy.
- X **C)** Number of dependent family members.

Explanation

The level of inflation in the economy should be considered in determining the *return* objective. Risk tolerance is a function of the investor's psychological makeup and the investor's personal factors such as age, family situation, existing wealth, insurance coverage, current cash reserves and income.

References

**Question From:** Session 12 > Reading 44 > LOS d

**Related Material:**

- Key Concepts by LOS

## Question #83 of 200

Question ID: 415038

What is the risk measure associated with the CML?

- X **A)** Beta.
- ✓ **B)** Standard deviation.
- X **C)** Market risk.

Explanation

X **A)** Investor X is less risk-averse than investor Y.

X **B)** Investor X's expected return will always be less than that of Investor Y.

The efficient frontier (EMV) represents the portfolio that provides the highest return at each risk level. Beta (systemic risk) is used to measure risk for the security market line (SML).

[Explanation](#)  
[References](#)

Investor X has a steep indifference curve, indicating that he is risk-averse. Flatter indifference curves, such as those for Investor Y, indicate a less risk-averse investor. The other choices are true. A more risk-averse investor will likely obtain lower expected return as a less risk-averse investor.

[Key Concepts by LOS](#)

**Question From:** Session 12 > Reading 42 > LOS h

## Question #84 of 200

Question ID: 415013

An investor has identified the following possible portfolios. Which portfolio *cannot* be on the efficient frontier?

Portfolio	Expected Return	Standard Deviation
V	18%	35%
W	12%	16%
X	10%	10%
Y	14%	20%
Z	13%	24%

- X **A)** Y.  
✓ **B)** Z.  
X **C)** X.

[Explanation](#)

Portfolio Z must be inefficient because its risk is higher than Portfolio Y and its expected return is lower than Portfolio Y.

[References](#)

**Question From:** Session 12 > Reading 42 > LOS g

**Related Material:**

- Key Concepts by LOS

## Question #85 of 200

Question ID: 414977

Stock A has a standard deviation of 10%. Stock B has a standard deviation of 15%. The covariance between A and B is 0.0105. The correlation between A and B is:

- X **A)** 0.25.  
X **B)** 0.55.

✓ **C)** 0.70.

#### Explanation

$\text{Cov}_{A,B} = (r_{A,B})(SD_A)(SD_B)$ , where  $r$  = correlation coefficient and  $SD_x$  = standard deviation of stock  $x$

Then,  $(r_{A,B}) = \text{Cov}_{A,B} / (SD_A \times SD_B) = 0.0105 / (0.10 \times 0.15) = 0.700$

#### References

**Question From:** Session 12 > Reading 42 > LOS c

#### **Related Material:**

- Key Concepts by LOS
- 

### Question #86 of 200

Question ID: 415054

If the standard deviation of the market's returns is 5.8%, the standard deviation of a stock's returns is 8.2%, and the covariance of the market's returns with the stock's returns is 0.003, what is the beta of the stock?

X **A)** 1.07.

X **B)** 0.05.

✓ **C)** 0.89.

#### Explanation

The formula for beta is:  $(\text{Cov}_{\text{stock,market}})/(\text{Var}_{\text{market}})$ , or  $(0.003)/(0.058)^2 = 0.89$ .

#### References

**Question From:** Session 12 > Reading 43 > LOS e

#### **Related Material:**

- Key Concepts by LOS
- 

### Question #87 of 200

Question ID: 414951

A pooled investment with a share price significantly different from its net asset value (NAV) per share is *most likely* a(n):

X **A)** open-end fund.

✓ **B)** closed-end fund.

X **C)** exchange-traded fund.

A stock's abnormal rate of return is defined as the:

#### Explanation

Closed-end funds' share prices can differ significantly from their NAVs. Open-end fund shares can be purchased and redeemed at their

NAVs. Market forces keep exchange-traded fund share prices close to their NAVs because arbitrageurs can profit by trading when there

✓ **B)** actual rate of return less the expected risk-adjusted rate of return.

are expected risk-adjusted rate of return minus the market rate of return.

References  
Explanation

**Question From:** Session 12 > Reading 40 > LOS e  
Abnormal return = Actual return - expected risk-adjusted return

**Related Material:**  
References

- Key Concepts by LOS

**Question From:** Session 12 > Reading 43 > LOS h

**Related Material:**

## Question #88 of 200

Question ID: 415083

Charlie Smith holds two portfolios, Portfolio X and Portfolio Y. They are both liquid, well-diversified portfolios with approximately equal market values. He expects Portfolio X to return 13% and Portfolio Y to return 14% over the upcoming year. Because of an unexpected need for cash, Smith is forced to sell at least one of the portfolios. He uses the security market line to determine whether his portfolios are undervalued or overvalued. Portfolio X's beta is 0.9 and Portfolio Y's beta is 1.1. The expected return on the market is 12% and the risk-free rate is 5%. Smith should sell:

- ☐ A) both portfolios X and Y because they are both overvalued.
- ☐ B) either portfolio X or Y because they are both properly valued.
- ☒ C) portfolio Y only.

Explanation

Portfolio X's required return is  $0.05 + 0.9 \times (0.12 - 0.05) = 11.3\%$ . It is expected to return 13%. The portfolio has an expected excess return of 1.7%.

Portfolio Y's required return is  $0.05 + 1.1 \times (0.12 - 0.05) = 12.7\%$ . It is expected to return 14%. The portfolio has an expected excess return of 1.3%.

Since both portfolios are undervalued, the investor should sell the portfolio that offers less excess return. Sell Portfolio Y because its excess return is less than that of Portfolio X.

References

**Question From:** Session 12 > Reading 43 > LOS h

**Related Material:**

- Key Concepts by LOS

## Question #89 of 200

Question ID: 415056

The expected rate of return is twice the 12% expected rate of return from the market. What is the beta if the risk-free rate is 6%?

- ☐ A) 2.
- ☐ B) 4.
- ☒ C) 3.

### Explanation

$$24 = 6 + \beta (12 - 6)$$

$$18 = 6\beta$$

$$\beta = 3$$

### References

**Question From:** Session 12 > Reading 43 > LOS e

**Related Material:**

- Key Concepts by LOS
- 

## Question #90 of 200

Question ID: 498769

Promised payments to pension beneficiaries are a responsibility of the plan sponsor in:

- ✓ **A)** a defined benefit plan only.
- X **B)** a defined contribution plan only.
- X **C)** both a defined benefit plan and a defined contribution plan.

### Explanation

In a defined benefit plan the promised payments to beneficiaries are a responsibility of the firm sponsoring the plan. In a defined contribution plan no fixed payments are promised to beneficiaries.

### References

**Question From:** Session 12 > Reading 40 > LOS c

**Related Material:**

- Key Concepts by LOS
- 

## Question #91 of 200

Question ID: 710158

What is the required rate of return for a stock with a beta of 1.2, when the risk-free rate is 6% and the market risk premium is 12%?

- X **A)** 13.2%.
- X **B)** 15.4%.
- ✓ **C)** 20.4%.

**Explanation** (percentage return). The analyst gathers the following information on the stock:

RR = Market Return (Rmkt) + Beta (B) × (R - Rf) where RR = required return, R = return, and Rf = risk-free rate.

- Covariance of Dover with the market = 0.85
- Here,  $RR_{\text{Stock}} = 6 + (12) \times 1.2 = 6 + 14.4 = 20.4\%$ . We are given the market risk premium  $E(R_{\text{mkt}}) - R_f$ , not the expected return on the
- Dover's current stock price ( $P_0$ ) = \$35.00

market. The expected price in one year ( $P_1$ ) is \$39.00

- Expected annual dividend = \$1.50
- References
- 3-month Treasury bill yield = 4.50%.

Question From: Session 6 > Reading 13 > LOS g

Related Material:

- Key Concepts by LOS
- 

## Question #92 of 200

Question ID: 414946

Which of the following statements about the steps in the portfolio management process is NOT correct?

- ✓ **A)** Developing an investment strategy is based on an analysis of historical performance in financial markets and economic conditions.
- X **B)** Rebalancing the investor's portfolio is done on an as-needed basis, and should be reviewed on a regular schedule.
- X **C)** Implementing the plan is based on an analysis of the current and future forecast of financial and economic conditions.

### Explanation

Developing an investment strategy is based primarily on an analysis of the *current and future* financial market and economic conditions. Historical analysis serves to help develop an expectation for future conditions.

### References

Question From: Session 12 > Reading 40 > LOS d

Related Material:

- Key Concepts by LOS
- 

## Question #93 of 200

Question ID: 415111

A firm that invests the majority of a portfolio to track a benchmark index, and uses active investment strategies for the remaining portion, is said to be using:

- ✓ **A)** a core-satellite approach.
- X **B)** strategic asset allocation.
- X **C)** risk budgeting.
- X **D)** undervalued by approximately 1.0%.

### Explanation

- X **B)** undervalued by approximately 2.1%.

With a core-satellite approach, a firm invests the majority of a portfolio passively and uses active strategies for the remaining portion. Strategic asset allocation refers to specifying the percentages of a portfolio's value to allocate to specific asset classes. Risk budgeting refers to allocating a portfolio's overall permitted risk among strategic asset allocation, tactical asset allocation, and security selection.

### Explanation

References  
To determine whether a stock is overvalued or undervalued, we need to compare the expected return (or holding period return) and the required return (from Capital Asset Pricing Model, or CAPM).

**Question From:** Session 12 > Reading 44 > LOS g

**Step 1: Calculate Expected Return (Holding period return)**

**Related Material:**

The formula for the (one-year) holding period return is:

• Key Concepts by LOS  
 $HPR = (D_1 + S_1 - S_0) / S_0$ , where D = dividend and S = stock price.

Here,  $HPR = (1.50 + 30 - 35) / 35 = 15.71\%$

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## Question #94 of 200

Question ID: 415089

Brian Nebrik, CFA, meets with a new investment management client. They compose a statement that defines each of their responsibilities concerning this account and choose a benchmark index with which to evaluate the account's performance. Which of these items should be included in the client's Investment Policy Statement (IPS)?

- ☒ **A)** Both of these items.
- ☐ **B)** Neither of these items.
- ☐ **C)** Only one of these items.

References

Explanation

**Question From:** Session 12 > Reading 43 > LOS b

Two of the major components of an IPS should be a statement of the responsibilities of the investment manager and the client, and a performance evaluation benchmark.

**Related Material:**

References

- Key Concepts by LOS

**Question From:** Session 12 > Reading 44 > LOS b

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**Related Material:**

- Key Concepts by LOS
- 

## Question #95 of 200

Question ID: 415041

Which of the following is the risk that disappears in the portfolio construction process?

- ☐ **A)** Interest rate risk.
- ☒ **B)** Unsystematic risk.
- ☐ **C)** Systematic risk.

In the context of the capital market line (CML), which of the following statements is CORRECT?

Explanation

- ☐ **A)** Market risk can be reduced through diversification.

Unsystematic risk (diversifiable risk) is the risk that is eliminated when the investor builds a well-diversified portfolio.

- ☒ **B)** Firm-specific risk can be reduced through diversification.

References

- ☐ **C)** The two classes of risk are market risk and systematic risk.

**Question From:** Session 12 > Reading 43 > LOS c

Explanation

**Related Material:**

The other statements are false. Market risk *cannot* be reduced through diversification; market risk = systematic risk. The two

- Key Concepts by LOS

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classes of risk are *unsystematic* risk and systematic risk.

### Question #96 of 200

Question ID: 415047

In equilibrium, investors should only expect to be compensated for bearing systematic risk because:

- ☐ A) individual securities in equilibrium only have systematic risk.
- ☐ B) systematic risk is specific to the securities the investor selects.
- ☒ C) nonsystematic risk can be eliminated by diversification.

#### Explanation

In equilibrium, investors should not expect to earn additional return for bearing nonsystematic risk because this risk can be eliminated by diversification. Individual securities have both systematic and nonsystematic risk. Systematic risk is market risk; nonsystematic risk is specific to individual securities.

#### References

**Question From:** Session 12 > Reading 43 > LOS c

**Related Material:**

- Key Concepts by LOS

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### Question #97 of 200

Question ID: 710154

All portfolios on the capital market line:

- ☐ A) contain different risky assets.
- ☒ B) are perfectly positively correlated.
- ☐ C) are unrelated except that they all contain the risk-free asset.

#### Explanation

The introduction of a risk-free asset changes the Markowitz efficient frontier into a straight line. This straight efficient frontier line is called the capital market line (CML). Since the line is straight, the math implies that the returns on any two portfolios on this line will be perfectly, positively correlated with each other. Note: When  $r_{a,b} = 1$ , then the equation for risk changes to  $s_{port} = W_{AS_A} + W_{BS_B}$ , which is a straight line. The risky assets for each portfolio on the CML are the same, the tangency (or market) portfolio of risky assets.

#### References

**Question From:** Session 12 > Reading 43 > LOS b

**Related Material:**

- Key Concepts by LOS

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### Question #98 of 200

Question ID: 415068



The beta of Stock A is 1.3. If the expected return of the market is 12%, and the risk-free rate of return is 6%, what is the expected return of Stock A?

- X **A)** 15.6%.
- ✓ **B)** 13.8%.
- X **C)** 14.2%.

Explanation

$RR_{\text{Stock}} = R_f + (R_{\text{Market}} - R_f) \times \text{Beta}_{\text{Stock}}$ , where  $RR$ = required return,  $R$  = return, and  $R_f$  = risk-free rate

Here,  $RR_{\text{Stock}} = 6 + (12 - 6) \times 1.3 = 6 + 7.8 = \mathbf{13.8\%}$ .

References

**Question From:** Session 12 > Reading 43 > LOS g

**Related Material:**

- Key Concepts by LOS
- 

## Question #99 of 200

Question ID: 415090

The major components of a typical investment policy statement (IPS) *least likely* include:

- ✓ **A)** investment manager's compensation.
- X **B)** duties and responsibilities of investment manager, custodian, and client.
- X **C)** investment objectives, constraints, and guidelines.

Explanation

Investment manager's compensation is not among the major components of a typical IPS. The major components include a description of the client; a statement of purpose; a statement of duties and responsibilities; procedures to update the IPS; investment objectives; investment constraints; investment guidelines; and benchmark for evaluation of performance.

References

**Question From:** Session 12 > Reading 44 > LOS b

**Related Material:**

- Key Concepts by LOS
- 

## Question #100 of 200

Question ID: 415106

When preparing a strategic asset allocation, how should asset classes be defined with respect to the correlations of returns among the securities in each asset class?

- X **A)** Low correlation within asset classes and low correlation between asset classes.

- ✓ **B)** High correlation within asset classes and low correlation between asset classes.
- X **C)** Low correlation within asset classes and high correlation between asset classes.

#### Explanation

The portfolio diversification benefits from strategic asset allocation result from low correlations of returns between asset classes. Asset classes should consist of assets with similar characteristics and investment performance, which means correlations within an asset class are relatively high.

#### References

**Question From:** Session 12 > Reading 44 > LOS f

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #101 of 200**

Question ID: 414961

If the standard deviation of returns for stock A is 0.40 and for stock B is 0.30 and the covariance between the returns of the two stocks is 0.007 what is the correlation between stocks A and B?

- X **A)** 17.14300.
- X **B)** 0.00084.
- ✓ **C)** 0.05830.

#### Explanation

$\text{Cov}_{A,B} = (r_{A,B})(SD_A)(SD_B)$ , where  $r$  = correlation coefficient and  $SD_x$  = standard deviation of stock  $x$

Then,  $(r_{A,B}) = \text{Cov}_{A,B} / (SD_A \times SD_B) = 0.007 / (0.400 \times 0.300) = 0.0583$

#### References

**Question From:** Session 12 > Reading 42 > LOS c

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #102 of 200**

Question ID: 415091

Which of the following statements about the importance of risk and return in the investment objective is *least* accurate?

- X **A)** The return objective may be stated in dollar amounts even if the risk objective is stated in percentages.
- X **B)** The investor's risk tolerance is likely to determine what level of return will be feasible.
- ✓ **C)** Expressing investment goals in terms of risk is more appropriate than expressing goals in terms of return.

#### Explanation

Expressing investment goals in terms of risk is *not* more appropriate than expressing goals in terms of return. The investment objectives should be stated in terms of both risk and return. Risk tolerance will likely help determine what level of expected return is feasible.

#### References

**Question From:** Session 12 > Reading 44 > LOS c

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #103 of 200**

Question ID: 414945

In a defined benefit pension plan:

- ✓ **A)** the employee is promised a periodic payment upon retirement.
- X **B)** the employee is responsible for making investment decisions.
- X **C)** the employer's pension expense is equal to its contributions to the plan.

#### Explanation

In a defined benefit pension plan, a periodic payment, typically based on the employee's salary, is promised to the employee upon retirement and the employer contributes to an investment trust that generates the principal growth and income to meet the pension obligation. The employees do not direct the investments in their accounts as they do in a defined contribution plan. Pension expense for a defined benefit plan has several components, including service cost, prior service cost, and interest cost, and depends on actuarial assumptions and the expected rate of return on plan assets.

#### References

**Question From:** Session 12 > Reading 40 > LOS c

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #104 of 200**

Question ID: 414983

Using the following correlation matrix, which two stocks would combine to make the lowest-risk portfolio? (Assume the stocks

have equal risk and returns.)

Stock	A	B	C
A	+ 1	--	--
B	- 0.2	+ 1	--
C	+ 0.6	- 0.1	+ 1

- X **A)** C and B.
- X **B)** A and C.
- ✓ **C)** A and B.

#### Explanation

- Key Concepts by LOS

Portfolios A and B have the lowest correlation coefficient and will thus create the lowest-risk portfolio.

The standard deviation of a portfolio =  $[W_1^2\sigma_1^2 + W_2^2\sigma_2^2 + 2W_1W_2\sigma_1\sigma_2r_{1,2}]^{1/2}$

The correlation coefficient,  $r_{1,2}$ , varies from + 1 to - 1. The smaller the correlation coefficient, the smaller  $\sigma_{\text{portfolio}}$  can be. If the correlation coefficient were - 1, it would be possible to make  $\sigma_{\text{portfolio}}$  go to zero by picking the proper weightings of  $W_1$  and  $W_2$ .

#### References

**Question From:** Session 12 > Reading 42 > LOS e

#### Related Material:

- Key Concepts by LOS

## Question #105 of 200

Question ID: 414967

A measure of how well the returns of two risky assets move together is the:

- X **A)** range.
- ✓ **B)** covariance.
- X **C)** standard deviation.

**Level I CFA** candidate Adeline Bass is a member of an investment club. At the next meeting, she is to recommend whether or not the club should purchase the stocks of CS Industries and MG Consolidated. The risk-free rate is at 6% and the expected return on the market is 15%. Prior to the meeting, Bass gathers the following information on the two stocks. A positive covariance means the returns of the two securities move in the same direction. A negative covariance means that the returns of two securities move in opposite directions. A zero covariance means there is no relationship between the behaviors of two stocks. The magnitude of the covariance depends on the magnitude of the individual stock's standard deviations and the relationship between their co-movements. The covariance is an absolute measure of movement and is measured in return units squared.

	CS Industries	MG Consolidated
Current Market Value	\$25	\$50
Expected Market Value in One Year	\$30	\$55
Expected Dividend	\$1	\$1
Beta	1.2	0.80

#### References

**Question From:** Session 12 > Reading 42 > LOS c

**Related Material:** Recommend that the club:

- Key Concepts by LOS

## Question #106 of 200

Question ID: 414970

An analyst observes the following return behavior between stocks X and Y.

Time Period	X's Return	Y's Return
1	7	5
2	9	8
3	10	11
4	10	8

What is the covariance of returns between stocks X and Y?

Here, the holding period (or expected) return is calculated as:  $(\text{ending price} - \text{beginning price}) / \text{beginning price}$ . The required return uses the equation of the SML: risk free rate + Beta  $\times$  (expected market rate – risk-free rate).

- For CS Industries:  $ER = (30 - 25 + 1) / 25 = 24\%$ ,  $RR = 6 + 1.2 \times (15 - 6) = 16.8\%$ . Stock is underpriced - purchase.
- For MG Consolidated:  $ER = (55 - 50 + 1) / 50 = 12\%$ ,  $RR = 6 + 0.80 \times (15 - 6) = 13.2\%$ . Stock is overpriced - do not purchase.

### References

**Question From:** Session 12 > Reading 43 > LOS h

**Related Material:**

- Key Concepts by LOS

## Question #132 of 200

Question ID: 415053

An analyst has developed the following data for two companies, PNS Manufacturing (PNS) and InCharge Travel (InCharge). PNS has an expected return of 15% and a standard deviation of 18%. InCharge has an expected return of 11% and a standard deviation of 17%. PNS's correlation with the market is 75%, while InCharge's correlation with the market is 85%. If the market standard deviation is 22%, which of the following are the betas for PNS and InCharge?

Beta of PNS      Beta of  
InCharge

- X **A)** 0.92                      1.10
- ✓ **B)** 0.61                      0.66
- X **C)** 0.66                      0.61

Explanation

$$\text{Beta}_i = (s_i/s_M) \times r_{i, M}$$

$$\text{BetaPNS} = (0.18/0.22) \times 0.75 = 0.6136$$

$$\text{BetaInCharge} = (0.17/0.22) \times 0.85 = 0.6568$$

References

**Question From:** Session 12 > Reading 43 > LOS e

**Related Material:**

- Key Concepts by LOS

**Question #133 of 200**

Question ID: 414962

If the standard deviation of asset A is 12.2%, the standard deviation of asset B is 8.9%, and the correlation coefficient is 0.20, what is the covariance between A and B?

- X **A)** 0.0031.
- X **B)** 0.0001.
- ✓ **C)** 0.0022.

Explanation

The formula is: (correlation)(standard deviation of A)(standard deviation of B) = (0.20)(0.122)(0.089) = 0.0022.

References

**Question From:** Session 12 > Reading 42 > LOS c

**Related Material:**

- Key Concepts by LOS

**Question #134 of 200**

Question ID: 415052

Beta is *least* accurately described as:

- X **A)** a measure of the sensitivity of a security's return to the market return.
- X **B)** the covariance of a security's returns with the market return, divided by the variance of market returns.

- ✓ **C)** a standardized measure of the total risk of a security.

#### Explanation

Beta is a standardized measure of the *systematic* risk of a security.  $\beta = \text{Cov}_{r,\text{mkt}} / \sigma^2_{\text{mkt}}$ . Beta is multiplied by the market risk premium in the CAPM:  $E(R_i) = \text{RFR} + \beta[E(R_{\text{mkt}}) - \text{RFR}]$ .

#### References

**Question From:** Session 12 > Reading 43 > LOS e

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #135 of 200**

Question ID: 598982

Features of a risk management framework *least likely* include:

- X **A)** monitoring the organization's risk exposures.
- X **B)** establishing risk governance policies and processes.
- ✓ **C)** taking corrective actions against employees who exceed their risk budgets.

#### Explanation

Corrective actions against individuals are not specifically part of a risk management framework. Features of a risk management framework include establishing risk governance policies, determining risk tolerance, identifying and measuring risks, managing or mitigating risks, monitoring exposures to risks, performing strategic risk analysis, and communicating risk levels through the organization.

#### References

**Question From:** Session 12 > Reading 41 > LOS b

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #136 of 200**

Question ID: 415097

Which of the following statements is NOT consistent with the assumption that individuals are risk averse with their investment portfolios?

- X **A)** There is a positive relationship between expected returns and expected risk.
- X **B)** Higher betas are associated with higher expected returns.
- ✓ **C)** Many individuals purchase lottery tickets.

#### Explanation

Investors are *risk averse*. Given a choice between two assets with equal rates of return, the investor will always select the asset with the lowest level of risk. This means that there is a positive relationship between expected returns (ER) and expected risk and the risk return line (capital market line [CML] and security market line [SML]) is upward sweeping. However, investors can be risk averse in one area and not others, as evidenced by their purchase of lottery tickets.

#### References

**Question From:** Session 12 > Reading 44 > LOS d

#### **Related Material:**

- Key Concepts by LOS
- 

### Question #137 of 200

Question ID: 415061

Which of the following is an assumption of capital market theory? All investors:

- ☐ A) select portfolios that lie above the efficient frontier to optimize the risk-return relationship.
- ☐ B) have multiple-period time horizons.
- ☒ C) see the same risk/return distribution for a given stock.

#### Explanation

All investors select portfolios that *lie along* the efficient frontier, based on their utility functions. All investors have the same *one-period* time horizon, and have the same risk/return expectations.

#### References

**Question From:** Session 12 > Reading 43 > LOS f

#### **Related Material:**

- Key Concepts by LOS
- 

### Question #138 of 200

Question ID: 414959

Historically, which of the following asset classes has exhibited the smallest standard deviation of monthly returns?

- ☐ A) Long-term corporate bonds.
- ☒ B) Treasury bills.
- ☐ C) Large-capitalization stocks.

#### Explanation

Based on data for securities in the United States from 1926 to 2008, Treasury bills exhibited a lower standard deviation of monthly returns than both large-cap stocks and long-term corporate bonds.

#### References



**Question From:** Session 12 > Reading 42 > LOS b

**Related Material:**

- Key Concepts by LOS
- 

### Question #139 of 200

Question ID: 434360

Which of the following institutional investors is *most likely* to have low liquidity needs?

- ☐ A) Bank.
- ☐ B) Property insurance company.
- ☒ C) Defined benefit pension plan.

#### Explanation

A defined benefit pension plan has less need for liquidity than a bank or a property and casualty insurance company. Banks have high liquidity needs because assets may have to be sold quickly if depositors withdraw their funds. Property and casualty insurance companies need to keep liquid assets to meet claims as they arise.

#### References

**Question From:** Session 12 > Reading 40 > LOS b

**Related Material:**

- Key Concepts by LOS
- 

### Question #140 of 200

Question ID: 414997

There are benefits to diversification as long as:

- ☐ A) there must be perfect negative correlation between the assets.
- ☐ B) there is perfect positive correlation between the assets.
- ☒ C) the correlation coefficient between the assets is less than 1.

#### Explanation

There are benefits to diversification as long as the correlation coefficient between the assets is less than 1.

#### References

**Question From:** Session 12 > Reading 42 > LOS f

**Related Material:**

- Key Concepts by LOS
-

## Question #141 of 200

Question ID: 598983

The first step in managing an organization's risks should be to determine:

- ☐ A) a risk budget for the organization.
- ☒ B) the organization's risk tolerance.
- ☐ C) the organization's risk exposures.

### Explanation

Risk governance begins with determining the organization's overall risk tolerance.

### References

**Question From:** Session 12 > Reading 41 > LOS c

### **Related Material:**

- Key Concepts by LOS
- 

## Question #142 of 200

Question ID: 472418

One of the assumptions underlying the capital asset pricing model is that:

- ☐ A) only whole shares or whole bonds are available.
- ☐ B) each investor has a unique time horizon.
- ☒ C) there are no transactions costs or taxes.

### Explanation

The CAPM assumes frictionless markets, i.e., no taxes or transactions costs. Among the other assumptions of the CAPM are that all investors have the same one-period time horizon and that all investments are infinitely divisible.

### References

**Question From:** Session 12 > Reading 43 > LOS f

### **Related Material:**

- Key Concepts by LOS
- 

## Question #143 of 200

Question ID: 414992

A portfolio manager adds a new stock that has the same standard deviation of returns as the existing portfolio but has a correlation coefficient with the existing portfolio that is less than +1. Adding this stock will have what effect on the standard deviation of the revised portfolio's returns? The standard deviation will:

- ☐ A) increase.

X **B)** decrease only if the correlation is negative.

✓ **C)** decrease.

#### Explanation

If the correlation coefficient is less than 1, there are benefits to diversification. Thus, adding the stock will reduce the portfolio's standard deviation.

#### References

**Question From:** Session 12 > Reading 42 > LOS f

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #144 of 200**

Question ID: 485794

An investor begins with a \$100,000 portfolio. At the end of the first period, it generates \$5,000 of income, which he does not reinvest. At the end of the second period, he contributes \$25,000 to the portfolio. At the end of the third period, the portfolio is valued at \$123,000. The portfolio's money-weighted return per period is *closest to*:

✓ **A)** 0.94%.

X **B)** 1.20%.

X **C)** -0.50%.

#### Explanation

Using the financial calculator, the initial investment ( $CF_0$ ) is -100,000. The income is +5,000 ( $CF_1$ ), and the contribution is -25,000 ( $CF_2$ ). Finally, the ending value is +123,000 ( $CF_3$ ) available to the investor. Compute IRR = 0.94

#### References

**Question From:** Session 12 > Reading 42 > LOS a

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #145 of 200**

Question ID: 415027

The correlation of returns on the risk-free asset with returns on a portfolio of risky assets is:

X **A)** negative.

X **B)** positive.

✓ **C)** zero.

#### Explanation

The risk-free asset has zero correlation of returns with any portfolio of risky assets.

#### References

**Question From:** Session 12 > Reading 43 > LOS a

**Related Material:**

- Key Concepts by LOS
- 

### Question #146 of 200

Question ID: 710157

For a security with a beta of 1.10 when the risk-free rate is 5%, and the expected market risk premium is 5%, what is the expected rate of return on the security according to the CAPM?

- X **A)** 5.5%.
- ✓ **B)** 10.5%.
- X **C)** 15.5%.

#### Explanation

$$k = 5 + 1.10 (5) = 10.5$$

#### References

**Question From:** Session 12 > Reading 43 > LOS g

**Related Material:**

- Key Concepts by LOS
- 

### Question #147 of 200

Question ID: 415069

The beta of stock D is -0.5. If the expected return of Stock D is 8%, and the risk-free rate of return is 5%, what is the expected return of the market?

- X **A)** +3.0%.
- X **B)** +3.5%.
- ✓ **C)** -1.0%.

#### Explanation

$RR_{\text{Stock}} = R_f + (R_{\text{Market}} - R_f) \times \text{Beta}_{\text{Stock}}$ , where RR = required return, R = return, and  $R_f$  = risk-free rate

A bit of algebraic manipulation results in:

$$R_{\text{Market}} = [RR_{\text{Stock}} - R_f + (\text{Beta}_{\text{Stock}} \times R_f)] / \text{Beta}_{\text{Stock}} = [8 - 5 + (-0.5 \times 5)] / -0.5 = 0.5 / -0.5 = -1\%$$

#### References

**Question From:** Session 12 > Reading 43 > LOS g

**Related Material:**

- Key Concepts by LOS
- 

**Question #148 of 200**

Question ID: 415036

For an investor to move further up the Capital Market Line than the market portfolio, the investor must:

- ☐ **A)** reduce the portfolio's risk below that of the market.
- ☐ **B)** diversify the portfolio even more.
- ☒ **C)** borrow and invest in the market portfolio.

Explanation

Portfolios that lie to the right of the market portfolio on the capital market line ("up" the capital market line) are created by borrowing funds to own more than 100% of the market portfolio (M).

The statement, "diversify the portfolio even more" is incorrect because the market portfolio is fully diversified.

References

**Question From:** Session 12 > Reading 43 > LOS b

**Related Material:**

- Key Concepts by LOS
- 

**Question #149 of 200**

Question ID: 415020

Investors who are less risk averse will have what type of indifference curves for risk and expected return?

- ☒ **A)** Flatter.
- ☐ **B)** Inverted.
- ☐ **C)** Steeper.

Explanation

Investors who are less risk averse will have flatter indifference curves, meaning they are willing to take on more risk for a slightly higher return. Investors who are more risk averse require a much higher return to accept more risk, producing steeper indifference curves.

References

**Question From:** Session 12 > Reading 42 > LOS h

**Related Material:**

- Key Concepts by LOS

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## Question #150 of 200

Question ID: 414940

The portfolio approach to investing is *best* described as evaluating each investment based on its:

- X **A)** potential to generate excess return for the investor.
- ✓ **B)** contribution to the portfolio's overall risk and return.
- X **C)** fundamentals such as the financial performance of the issuer.

### Explanation

The portfolio approach to investing refers to evaluating individual investments based on their contribution to the overall risk and return of the investor's portfolio.

### References

**Question From:** Session 12 > Reading 40 > LOS a

### **Related Material:**

- Key Concepts by LOS
- 

## Question #151 of 200

Question ID: 598993

Value-at-Risk (VaR) and Conditional VaR are best described as measures of:

- ✓ **A)** tail risk.
- X **B)** model risk.
- X **C)** liquidity risk.

### Explanation

VaR and Conditional VaR are measures of tail risk, the probability of or magnitude of extreme negative outcomes in the tail of a distribution.

### References

**Question From:** Session 12 > Reading 41 > LOS g

### **Related Material:**

- Key Concepts by LOS
- 

## Question #152 of 200

Question ID: 415101

Which of the following should *least likely* be included as a constraint in an investment policy statement (IPS)?

- X **A)** Constraints put on investment activities by regulatory agencies.

- ✓ **B)** How funds are spent after being withdrawn from the portfolio.
- X **C)** Any unique needs or preferences an investor may have.

#### Explanation

How funds are spent after withdrawal would not be a constraint of an IPS.

#### References

**Question From:** Session 12 > Reading 44 > LOS e

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #153 of 200**

Question ID: 415028

The *slope* of the capital market line (CML) is a measure of the level of:

- ✓ **A)** excess return per unit of risk.
- X **B)** risk over the level of excess return.
- X **C)** expected return over the level of inflation.

#### Explanation

The slope of the CML indicates the excess return (expected return less the risk-free rate) per unit of risk.

#### References

**Question From:** Session 12 > Reading 43 > LOS b

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #154 of 200**

Question ID: 414943

A pool of investment assets owned by a government is *best* described as a(n):

- X **A)** state managed fund.
- ✓ **B)** sovereign wealth fund.
- X **C)** official reserve fund.

#### Explanation

A sovereign wealth fund is a pool of investment assets owned by a government.

#### References

**Question From:** Session 12 > Reading 40 > LOS b

**Related Material:**

- Key Concepts by LOS
- 

**Question #155 of 200**

Question ID: 415099

All of the following affect an investor's risk tolerance EXCEPT:

- X **A)** years of experience with investing in the markets.
- ✓ **B)** tax bracket.
- X **C)** family situation.

Explanation

Tax concerns play an important role in investment planning. However, these constitute an investment constraint, not an investment objective (i.e. risk tolerance).

References

**Question From:** Session 12 > Reading 44 > LOS d

**Related Material:**

- Key Concepts by LOS
- 

**Question #156 of 200**

Question ID: 598991

Buying insurance is *best* described as a method for an organization to:

- X **A)** prevent a risk.
- ✓ **B)** transfer a risk.
- X **C)** shift a risk.

Explanation

Buying insurance transfers a risk to the insurance company. Shifting a risk is changing the distribution of outcomes, typically with a derivatives contract. Preventing a risk refers to taking steps such as strengthening security procedures.

References

**Question From:** Session 12 > Reading 41 > LOS g

**Related Material:**

- Key Concepts by LOS
- 

**Question #157 of 200**

Question ID: 414987



What is the variance of a two-stock portfolio if 15% is invested in stock A (variance of 0.0071) and 85% in stock B (variance of 0.0008) and the correlation coefficient between the stocks is -0.04?

X **A)** 0.0026.

X **B)** 0.0020.

✓ **C)** 0.0007.

#### Explanation

The *variance* of the portfolio is found by:

$$[W_1^2 \sigma_1^2 + W_2^2 \sigma_2^2 + 2W_1W_2\sigma_1\sigma_2r_{1,2}], \text{ or } [(0.15)^2(0.0071) + (0.85)^2(0.0008) + (2)(0.15)(0.85)(0.0843)(0.0283)(-0.04)] = 0.0007.$$

#### References

**Question From:** Session 12 > Reading 42 > LOS e

#### **Related Material:**

- Key Concepts by LOS
- 

## Question #158 of 200

Question ID: 712732

An analyst has estimated the following:

- Correlation of Bahr Industries returns with market returns = 0.8
- Variance of the market returns = 0.0441
- Variance of Bahr returns = 0.0225

The beta of Bahr Industries stock is *closest* to:

X **A)** 0.77.

X **B)** 0.67.

✓ **C)** 0.57.

#### Explanation

$$\text{Covariance of Bahr and the market} = 0.8 \times \sqrt{0.0225} \times \sqrt{0.0441} = 0.0252$$

$$\text{Bahr beta} = 0.0252/0.0441 = 0.57$$

#### References

**Question From:** Session 12 > Reading 43 > LOS e

#### **Related Material:**

- Key Concepts by LOS
-

## Question #159 of 200

Question ID: 598986

An organization's risk budgeting process is *least likely* to:

- X **A)** limit the organization's exposures to the equity, fixed income, and commodity markets.
- X **B)** use specific metrics to ensure the organization's allocation of risks remains within its overall risk tolerance.
- ✓ **C)** determine whether the organization needs to purchase additional insurance.

### Explanation

Risk budgeting refers to allocating the total risk an organization chooses to accept among its various assets, investments, or activities. Specifying methods for dealing with particular risks is typically outside the scope of a risk budgeting process.

### References

**Question From:** Session 12 > Reading 41 > LOS e

### **Related Material:**

- Key Concepts by LOS
- 

## Question #160 of 200

Question ID: 500870

Which of the following would *least likely* be considered a minimum requirement of an IPS? A(n):

- X **A)** investment strategy based on client circumstances and constraints.
- X **B)** benchmark portfolio.
- ✓ **C)** target return figure.

### Explanation

An IPS does not necessarily, or even typically, require a target return because future market movements are either difficult or impossible to predict with any degree of accuracy. At a minimum the IPS should contain a clear statement of client circumstances and constraints, and investment strategy consistent with these, and a benchmark portfolio or instrument against which to evaluate portfolio returns.

### References

**Question From:** Session 12 > Reading 44 > LOS b

### **Related Material:**

- Key Concepts by LOS
- 

## Question #161 of 200

Question ID: 415064

When the market is in equilibrium:

- ✓ **A)** all assets plot on the SML.
- X **B)** all assets plot on the CML.
- X **C)** investors own 100% of the market portfolio.

#### Explanation

When the market is in equilibrium, expected returns equal required returns. Since this means that all assets are correctly priced, all assets plot on the SML.

By definition, all stocks and portfolios other than the market portfolio fall *below* the CML. (Only the market portfolio is efficient.

#### References

**Question From:** Session 12 > Reading 43 > LOS f

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #162 of 200**

Question ID: 414968

The covariance of the market's returns with the stock's returns is 0.008. The standard deviation of the market's returns is 0.1 and the standard deviation of the stock's returns is 0.2. What is the correlation coefficient between the stock and market returns?

- X **A)** 0.00016.
- X **B)** 0.91.
- ✓ **C)** 0.40.

#### Explanation

$\text{Cov}_{A,B} = (r_{A,B})(SD_A)(SD_B)$ , where  $r$  = correlation coefficient and  $SD_x$  = standard deviation of stock  $x$

Then,  $(r_{A,B}) = \text{Cov}_{A,B} / (SD_A \times SD_B) = 0.008 / (0.100 \times 0.200) = 0.40$

*Remember:* The correlation coefficient must be between -1 and 1.

#### References

**Question From:** Session 12 > Reading 42 > LOS c

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #163 of 200**

Question ID: 415022

According to Markowitz, an investor's optimal portfolio is determined where the:

- X **A)** investor's lowest utility curve is tangent to the efficient frontier.
- X **B)** investor's utility curve meets the efficient frontier.
- ✓ **C)** investor's highest utility curve is tangent to the efficient frontier.

#### Explanation

The optimal portfolio for an investor is determined as the point where the investor's highest utility curve is tangent to the efficient frontier.

#### References

**Question From:** Session 12 > Reading 42 > LOS h

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #164 of 200**

Question ID: 415007

In a two-asset portfolio, *reducing* the correlation between the two assets moves the efficient frontier in which direction?

- X **A)** The efficient frontier is stable unless return expectations change. If expectations change, the efficient frontier will extend to the upper right with little or no change in risk.
- X **B)** The efficient frontier is stable unless the asset's expected volatility changes. This depends on each asset's standard deviation.
- ✓ **C)** The frontier extends to the left, or northwest quadrant representing a reduction in risk while maintaining or enhancing portfolio returns.

#### Explanation

Reducing correlation between the two assets results in the efficient frontier expanding to the left and possibly slightly upward. This reflects the influence of correlation on reducing portfolio risk.

#### References

**Question From:** Session 12 > Reading 42 > LOS g

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #165 of 200**

Question ID: 434363

An asset manager's portfolio had the following annual rates of return:

<i>Year</i>	<i>Return</i>
20X7	+6%

20X8            -37%  
20X9            +27%

The manager states that the return for the period is -5.34%. The manager has reported the:

- ✓ **A)** geometric mean return.
- ✗ **B)** holding period return.
- ✗ **C)** arithmetic mean return

#### Explanation

Geometric Mean Return =  $\sqrt[3]{(1 + 0.06)(1 - 0.37)(1 + 0.27)} - 1 = -5.34\%$

Holding period return =  $(1 + 0.06)(1 - 0.37)(1 + 0.27) - 1 = -15.2\%$

Arithmetic mean return =  $(6\% - 37\% + 27\%) / 3 = -1.33\%$ .

#### References

**Question From:** Session 12 > Reading 42 > LOS a

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #166 of 200**

Question ID: 414969

The standard deviation of the rates of return is 0.25 for Stock J and 0.30 for Stock K. The covariance between the returns of J and K is 0.025. The correlation of the rates of return between J and K is:

- ✗ **A)** 0.20.
- ✓ **B)** 0.33.
- ✗ **C)** 0.10.

#### Explanation

$\text{Cov}_{J,K} = (r_{J,K})(SD_J)(SD_K)$ , where  $r$  = correlation coefficient and  $SD_x$  = standard deviation of stock  $x$

Then,  $(r_{J,K}) = \text{Cov}_{J,K} / (SD_J \times SD_K) = 0.025 / (0.25 \times 0.30) = 0.333$

#### References

**Question From:** Session 12 > Reading 42 > LOS c

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #167 of 200**

Question ID: 415008

On a graph of risk, measured by standard deviation and expected return, the *efficient frontier* represents:

- X **A)** all portfolios plotted in the northeast quadrant that maximize return.
- X **B)** the group of portfolios that have extreme values and therefore are "efficient" in their allocation.
- ✓ **C)** the set of portfolios that dominate all others as to risk and return.

#### Explanation

The efficient set is the set of portfolios that dominate all other portfolios as to risk and return. That is, they have highest expected return at each level of risk.

#### References

**Question From:** Session 12 > Reading 42 > LOS g

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #168 of 200**

Question ID: 415014

Which of the following inputs is *least likely* required for the Markowitz efficient frontier? The:

- X **A)** covariation between all securities.
- ✓ **B)** level of risk aversion in the market.
- X **C)** expected return of all securities.

#### Explanation

The level of risk aversion in the market is not a required input. The model requires that investors know the expected return and variance of each security as well as the covariance between all securities.

#### References

**Question From:** Session 12 > Reading 42 > LOS g

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #169 of 200**

Question ID: 415011

In a set of portfolios, the portfolio with the highest rate of return, but the same variance of the rate of return as the others, would be considered a(n):

- X **A)** positive beta portfolio.
- ✓ **B)** efficient portfolio.
- X **C)** positive alpha portfolio.

#### Explanation

The efficient frontier, which represents the set of portfolios that provides the highest return at each level of risk, is comprised of efficient portfolios. The optimal portfolio for each investor is the point on the highest indifference curve that is tangent to the efficient frontier.

#### References

**Question From:** Session 12 > Reading 42 > LOS g

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #170 of 200**

Question ID: 485797

An active manager will *most likely* short a security with an expected Jensen's alpha that is:

- X **A)** positive.
- ✓ **B)** negative.
- X **C)** zero.

#### Explanation

A security's expected Jensen's alpha is the difference between an active manager's estimate of a security's expected return and the CAPM expected return. A security that is expected to have a negative alpha will plot below the SML (i.e., the security is overvalued and should be sold or sold short).

#### References

**Question From:** Session 12 > Reading 43 > LOS h

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #171 of 200**

Question ID: 414947

Which of the following is typically the *first general step* in the portfolio management process?

- X **A)** Develop an investment strategy.
- X **B)** Specify capital market expectations.
- ✓ **C)** Write a policy statement.

### Explanation

The policy statement is the foundation of the entire portfolio management process. Here, both risk and return are integrated to determine the investor's goals and constraints.

### References

**Question From:** Session 12 > Reading 40 > LOS d

**Related Material:**

- Key Concepts by LOS
- 

## Question #172 of 200

Question ID: 414965

If two stocks have positive covariance, which of the following statements is CORRECT?

- ☐ A) If one stock doubles in price, the other will also double in price.
- ☒ B) The rates of return tend to move in the same direction relative to their individual means.
- ☐ C) The two stocks must be in the same industry.

### Explanation

This is a correct description of positive covariance.

If one stock doubles in price, the other will also double in price is true if the *correlation coefficient* = 1. The two stocks need *not* be in the same industry.

### References

**Question From:** Session 12 > Reading 42 > LOS c

**Related Material:**

- Key Concepts by LOS
- 

## Question #173 of 200

Question ID: 415110

A portfolio manager who believes equity securities are overvalued in the short term reduces the weight of equities in her portfolio to 35% from its longer-term target weight of 40%. This decision is *best* described as an example of:

- ☐ A) strategic asset allocation.
- ☐ B) rebalancing.
- ☒ C) tactical asset allocation.

### Explanation

Tactical asset allocation refers to deviating from a portfolio's target asset allocation weights in the short term to take advantage of perceived opportunities in specific asset classes. Strategic asset allocation is determining the target asset



allocation percentages for a portfolio. Rebalancing is periodically adjusting a portfolio back to its target asset allocation.

### References

**Question From:** Session 12 > Reading 44 > LOS g

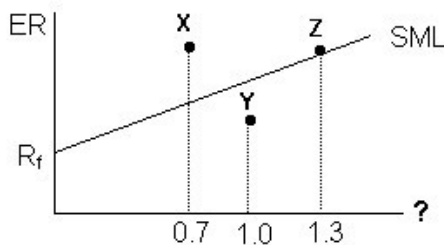
### **Related Material:**

- Key Concepts by LOS

## **Question #174 of 200**

Question ID: 710164

Consider the following graph of the Security Market Line (SML). The letters X, Y, and Z represent risky asset portfolios and an analyst's forecast for their returns over the next period. The SML crosses the y-axis at 0.07.



The expected market return is 13.0%.

Using the graph above and the information provided, the analyst *most likely* believes that:

- X **A)** Portfolio X's required return is greater than its forecast return.
- X **B)** Portfolio Y is undervalued.
- ✓ **C)** the expected return for Portfolio Z is 14.8%.

### Explanation

Portfolio Z has a beta of 1.3 and its required return can be calculated as  $7.0\% + 1.3 \times (13.0\% - 7.0\%) = 14.8\%$ . Because it plots on the SML, its expected (forecast) return and required return are equal.

The SML plots beta (*systematic risk*) versus expected equilibrium (required) return. The analyst believes that Portfolio Y is overvalued - any portfolio located below the SML has a forecast return less than its required return and is overpriced in the market. Since Portfolio X plots above the SML, it is undervalued and the statement should read, "Portfolio X's required return is less than its forecast return."

### References

**Question From:** Session 12 > Reading 43 > LOS h

### **Related Material:**

- Key Concepts by LOS

## Question #175 of 200

Question ID: 598989

Examples of financial risks include:

- ☐ A) solvency risk, credit risk, and market risk.
- ☒ B) credit risk, market risk, and liquidity risk.
- ☐ C) market risk, liquidity risk, and tax risk.

### Explanation

Credit risk, market risk, and liquidity risk are examples of financial risk. Solvency risk and tax risk are classified as non-financial risks.

### References

**Question From:** Session 12 > Reading 41 > LOS f

### **Related Material:**

- Key Concepts by LOS
- 

## Question #176 of 200

Question ID: 485795

An investor with a buy-and-hold strategy who makes quarterly deposits into an account should *most appropriately* evaluate portfolio performance using the portfolio's:

- ☒ A) geometric mean return.
- ☐ B) money-weighted return.
- ☐ C) arithmetic mean return.

### Explanation

Geometric mean return (time-weighted return) is the most appropriate method for performance measurement as it does not consider additions to or withdrawals from the account.

### References

**Question From:** Session 12 > Reading 42 > LOS a

### **Related Material:**

- Key Concepts by LOS
- 

## Question #177 of 200

Question ID: 415108

The manager of the Fullen Balanced Fund is putting together a report that breaks out the percentage of the variation in portfolio return that is explained by the target asset allocation, security selection, and tactical variations from the target, respectively. Which of the following sets of numbers was the *most likely* conclusion for the report?

- X **A)** 50%, 25%, 25%.
- ✓ **B)** 90%, 6%, 4%.
- X **C)** 33%, 33%, 33%.

#### Explanation

Several studies support the idea that approximately 90% of the variation in a single portfolio's returns can be explained by its target asset allocations, with security selection and tactical variations from the target (market timing) playing a much less significant role. In fact, for actively managed funds, actual portfolio returns are slightly less than those that would have been achieved if the manager strictly maintained the target allocation, thus illustrating the difficulty of improving returns through security selection or market timing.

#### References

**Question From:** Session 12 > Reading 44 > LOS g

**Related Material:**

- Key Concepts by LOS
- 

### Question #178 of 200

Question ID: 415100

Which of the following statements about investment constraints is *least* accurate?

- X **A)** Diversification efforts can increase tax liability.
- ✓ **B)** Investors concerned about time horizon are not likely to worry about liquidity.
- X **C)** Unwillingness to invest in gambling stocks is a constraint.

#### Explanation

Investors with a time horizon constraint may have little time for capital appreciation before they need the money. Need for money in the near term is a liquidity constraint. Time horizon and liquidity constraints often go hand in hand. Diversification often requires the sale of an investment and the purchase of another. Investment sales often trigger tax liability. Younger investors should take advantage of tax deferrals while they have time for the savings to compound, and while they are in their peak earning years. Many retirees have little income and face less tax liability on investment returns.

#### References

**Question From:** Session 12 > Reading 44 > LOS e

**Related Material:**

- Key Concepts by LOS
- 

### Question #179 of 200

Question ID: 414984

Which of the following measures is NOT considered when calculating the risk (variance) of a two-asset portfolio?

- ✓ **A)** The beta of each asset.
- X **B)** Each asset's standard deviation.
- X **C)** Each asset weight in the portfolio.

#### Explanation

The formula for calculating the variance of a two-asset portfolio is:

$$\sigma_p^2 = W_A^2 \sigma_A^2 + W_B^2 \sigma_B^2 + 2W_A W_B \text{Cov}(a, b)$$

#### References

**Question From:** Session 12 > Reading 42 > LOS e

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #180 of 200**

Question ID: 710155

Which of the following is the *most accurate* description of the market portfolio in Capital Market Theory? The market portfolio consists of all:

- X **A)** risky and risk-free assets in existence.
- X **B)** equity securities in existence.
- ✓ **C)** risky assets in existence.

#### Explanation

The market portfolio, in theory, contains all risky assets in existence. It does not contain any risk-free assets.

#### References

**Question From:** Session 12 > Reading 43 > LOS b

#### **Related Material:**

- Key Concepts by LOS
- 

### **Question #181 of 200**

Question ID: 415024

Which of the following statements about the optimal portfolio is NOT correct? The optimal portfolio:

- X **A)** lies at the point of tangency between the efficient frontier and the indifference curve with the highest possible utility.
- ✓ **B)** is the portfolio that gives the investor the maximum level of return.
- X **C)** may be different for different investors.

### Explanation

This statement is incorrect because it does not specify that risk must also be considered.

### References

**Question From:** Session 12 > Reading 42 > LOS h

#### **Related Material:**

- Key Concepts by LOS
- 

## **Question #182 of 200**

Question ID: 696230

An investment manager has constructed an efficient frontier based on a client's investable asset classes. The strategic asset allocation for the client should be the asset allocation of one of these efficient portfolios, selected based on:

- ✓ **A)** the client's investment objectives and constraints.
- X **B)** a risk budgeting process.
- X **C)** the relative valuations of the investable asset classes.

### Explanation

After defining the investable asset classes and constructing an efficient frontier of possible portfolios of these asset classes, the manager should choose the efficient portfolio that best suits the investor's objectives and constraints as specified in the IPS. The investor's strategic asset allocation can then be defined as the asset allocation of the chosen portfolio. Tactical asset allocation based on relative valuation of asset classes would require the manager to deviate from the strategic asset allocation. Risk budgeting refers to the practice of determining an overall risk limit for a portfolio and allocating that risk to strategic asset allocation, tactical asset allocation, and security selection decisions.

### References

**Question From:** Session 12 > Reading 44 > LOS g

#### **Related Material:**

- Key Concepts by LOS
- 

## **Question #183 of 200**

Question ID: 414944

In a defined contribution pension plan, investment risk is borne by the:

- X **A)** plan manager.
- X **B)** employer.
- ✓ **C)** employee.

### Explanation

In a defined contribution plan, the employee makes the investment decisions and assumes the investment risk.

## References

**Question From:** Session 12 > Reading 40 > LOS c

**Related Material:**

- Key Concepts by LOS
- 

### Question #184 of 200

Question ID: 415001

An investment manager is looking at ten possible stocks to include in a client's portfolio. In order to achieve the maximum efficiency of the portfolio, the manager must:

- ☐ A) include all ten stocks in the portfolio in equal amounts.
- ☒ B) find the combination of stocks that produces a portfolio with the maximum expected rate of return at a given level of risk.
- ☐ C) include only the stocks that have the lowest volatility at a given expected rate of return.

## Explanation

The most efficient portfolio will be the one that lies on the efficient frontier. It will offer the highest expected return at a given level of risk compared to all other possible portfolios.

## References

**Question From:** Session 12 > Reading 42 > LOS g

**Related Material:**

- Key Concepts by LOS
- 

### Question #185 of 200

Question ID: 415093

Which of the following statements about risk and return is *least accurate*?

- ☒ A) Risk and return may be considered on a mutually exclusive basis.
- ☐ B) Return objectives may be stated in absolute terms.
- ☐ C) Specifying investment objectives only in terms of return may expose an investor to inappropriately high levels of risk.

## Explanation

Risk and return must always be considered together when expressing investment objectives. Return objectives may be expressed either in absolute terms (dollar amounts) or in percentages.

## References

**Question From:** Session 12 > Reading 44 > LOS c

**Related Material:**

- Key Concepts by LOS
- 

**Question #186 of 200**

Question ID: 472419

When developing the strategic asset allocation in an IPS, the correlations of returns:

- X **A)** among asset classes should be relatively high.
- X **B)** within an asset class should be relatively low.
- ✓ **C)** within an asset class should be relatively high.

Explanation

Asset classes are defined such that correlations of returns *within* an asset class are relatively high. Low correlations of returns *among* asset classes increase the benefits of diversification across asset classes.

References

**Question From:** Session 12 > Reading 44 > LOS f

**Related Material:**

- Key Concepts by LOS
- 

**Question #187 of 200**

Question ID: 414979

Which of the following statements about risk aversion is CORRECT?

- ✓ **A)** Given a choice between two assets with equal rates of return, the investor will always select the asset with the lowest level of risk.
- X **B)** Risk aversion implies that the risk-return line, the CML, and the SML are downward sloping curves.
- X **C)** Risk averse investors will not take on risk.

Explanation

Risk aversion implies that an investor will not assume risk unless compensated.

References

**Question From:** Session 12 > Reading 42 > LOS d

**Related Material:**

- Key Concepts by LOS
-

## Question #188 of 200

Question ID: 415006

Which one of the following portfolios does not lie on the efficient frontier?

Portfolio	Expected Return	Standard Deviation
A	7	5
B	9	12
C	11	10
D	15	15

X **A)** A.

✓ **B)** B.

X **C)** C.

### Explanation

Portfolio B has a lower expected return than Portfolio C with a *higher* standard deviation.

### References

**Question From:** Session 12 > Reading 42 > LOS g

### **Related Material:**

- Key Concepts by LOS

## Question #189 of 200

Question ID: 414998

Stock A has a standard deviation of 0.5 and Stock B has a standard deviation of 0.3. Stock A and Stock B are perfectly positively correlated. According to Markowitz portfolio theory how much should be invested in each stock to minimize the portfolio's standard deviation?

X **A)** 50% in Stock A and 50% in Stock B.

✓ **B)** 100% in Stock B.

X **C)** 30% in Stock A and 70% in Stock B.

### Explanation

Since the stocks are perfectly correlated, there is no benefit from diversification. So, invest in the stock with the lowest risk.

### References

**Question From:** Session 12 > Reading 42 > LOS f

### **Related Material:**

- Key Concepts by LOS



## Question #190 of 200

Question ID: 467389

Which of the following statements about systematic and unsystematic risk is *most* accurate?

- ☐ A) As an investor increases the number of stocks in a portfolio, the systematic risk will remain constant.
- ☒ B) Total risk equals market risk plus firm-specific risk.
- ☐ C) The unsystematic risk for a specific firm is similar to the unsystematic risk for other firms in the same industry.

### Explanation

Total risk equals systematic (market) plus unsystematic (firm-specific) risk.

The unsystematic risk for a specific firm is *not* similar to the unsystematic risk for other firms in the same industry. Unsystematic risk is firm-specific or unique risk.

Systematic risk of a portfolio can be changed by adding high-beta or low-beta stocks.

### References

**Question From:** Session 12 > Reading 43 > LOS c

### **Related Material:**

- Key Concepts by LOS

## Question #191 of 200

Question ID: 415030

According to capital market theory, which of the following represents the risky portfolio that should be held by all investors who desire to hold risky assets?

- ☒ A) The point of tangency between the capital market line (CML) and the efficient frontier.
- ☐ B) Any point on the efficient frontier and to the right of the point of tangency between the CML and the efficient frontier.
- ☐ C) Any point on the efficient frontier and to the left of the point of tangency between the CML and the efficient frontier.

### Explanation

Capital market theory suggests that all investors should invest in the same portfolio of risky assets, and this portfolio is located at the point of tangency of the CML and the efficient frontier of risky assets. Any point below the CML is suboptimal, and points above the CML are not feasible.

### References

**Question From:** Session 12 > Reading 43 > LOS b

### **Related Material:**

- Key Concepts by LOS

### Question #192 of 200

Question ID: 415004

An investor is evaluating the following possible portfolios. Which of the following portfolios would *least likely* lie on the efficient frontier?

Portfolio	Expected Return	Standard Deviation
A	26%	28%
B	23%	34%
C	14%	23%
D	18%	14%
E	11%	8%
F	18%	16%

- ✓ **A)** B, C, and F.  
X **B)** C, D, and E.  
X **C)** A, B, and C.

#### Explanation

Portfolio B cannot lie on the frontier because its risk is higher than that of Portfolio A's with lower return. Portfolio C cannot lie on the frontier because it has higher risk than Portfolio D with lower return. Portfolio F cannot lie on the frontier because its risk is higher than Portfolio D.

#### References

**Question From:** Session 12 > Reading 42 > LOS g

#### **Related Material:**

- Key Concepts by LOS

### Question #193 of 200

Question ID: 414982

Betsy Minor is considering the diversification benefits of a two stock portfolio. The expected return of stock A is 14 percent with a standard deviation of 18 percent and the expected return of stock B is 18 percent with a standard deviation of 24 percent. Minor intends to invest 40 percent of her money in stock A, and 60 percent in stock B. The correlation coefficient between the two stocks is 0.6. What is the variance and standard deviation of the two stock portfolio?

- ☐ **A)** Variance = 0.02206; Standard Deviation = 14.85%.
- ☐ **B)** Variance = 0.04666; Standard Deviation = 21.60%.
- ☒ **C)** Variance = 0.03836; Standard Deviation = 19.59%.

Explanation

$$(0.40)^2(0.18)^2 + (0.60)^2(0.24)^2 + 2(0.4)(0.6)(0.18)(0.24)(0.6) = 0.03836.$$

$$0.03836^{0.5} = 0.1959 \text{ or } 19.59\%.$$

References

**Question From:** Session 12 > Reading 42 > LOS e

**Related Material:**

- Key Concepts by LOS
- 

**Question #194 of 200**

Question ID: 415003

Which of the following statements concerning the efficient frontier is *most* accurate? It is the:

- ☐ **A)** set of portfolios that gives investors the lowest risk.
- ☒ **B)** set of portfolios where there are no more diversification benefits.
- ☐ **C)** set of portfolios that gives investors the highest return.

Explanation

The efficient frontier outlines the set of portfolios that gives investors the highest return for a given level of risk or the lowest risk for a given level of return. It is also the point at which there are no more benefits to diversification.

References

**Question From:** Session 12 > Reading 42 > LOS g

**Related Material:**

- Key Concepts by LOS
- 

**Question #195 of 200**

Question ID: 414938

In the Markowitz framework, an investor should *most* appropriately evaluate a potential investment based on its:

- ☐ **A)** expected return.
- ☒ **B)** effect on portfolio risk and return.
- ☐ **C)** intrinsic value compared to market value.

Explanation

Modern portfolio theory concludes that an investor should evaluate potential investments from a portfolio perspective and consider how the investment will affect the risk and return characteristics of an investor's portfolio as a whole.

#### References

**Question From:** Session 12 > Reading 40 > LOS a

#### **Related Material:**

- Key Concepts by LOS
- 

### Question #196 of 200

Question ID: 415050

In Fama and French's multifactor model, the expected return on a stock is explained by:

- ✓ **A)** firm size, book-to-market ratio, and excess return on the market portfolio.
- X **B)** firm size, book-to-market ratio, and price momentum.
- X **C)** excess return on the market portfolio, book-to-market ratio, and price momentum.

#### Explanation

In the Fama and French model, the three factors that explain individual stock returns are firm size, the firm's book value-to-market value ratio, and the excess return on the market portfolio. The Carhart model added price momentum as a fourth factor.

#### References

**Question From:** Session 12 > Reading 43 > LOS d

#### **Related Material:**

- Key Concepts by LOS
- 

### Question #197 of 200

Question ID: 415107

Which of the following asset class specifications is *most appropriate* for asset allocation purposes?

- X **A)** Emerging markets.
- X **B)** Consumer discretionary.
- ✓ **C)** Domestic bonds.

#### Explanation

An asset class should be specified by type of security (e.g., stocks, bonds, alternative assets, cash) and can then be further subdivided by region or industry classification. An asset class defined only as "emerging markets" or "consumer discretionary firms" should identify the type of securities (e.g., equities or debt).

#### References

**Question From:** Session 12 > Reading 44 > LOS f

### Related Material:

- Key Concepts by LOS
- 

## Question #198 of 200

Question ID: 415046

Which of the following statements about portfolio management is *most* accurate?

- X **A)** The security market line (SML) measures systematic and unsystematic risk versus expected return; the CML measures total risk.
- X **B)** As an investor diversifies away the unsystematic portion of risk, the correlation between his portfolio return and that of the market approaches negative one.
- ✓ **C)** Combining the capital market line (CML) (risk-free rate and efficient frontier) with an investor's indifference curve map separates out the decision to invest from the decision of what to invest in.

### Explanation

Combining the CML (risk-free rate and efficient frontier) with an investor's indifference curve map separates out the decision to invest from what to invest in and is called the *separation theorem*. The investment selection process is thus simplified from stock picking to efficient portfolio construction through diversification.

The other statements are false. As an investor diversifies away the unsystematic portion of risk, the correlation between his portfolio return and that of the market approaches *positive* one. (Remember that the market portfolio has no unsystematic risk). The SML measures systematic risk, or beta risk.

### References

**Question From:** Session 12 > Reading 43 > LOS c

### Related Material:

- Key Concepts by LOS
- 

## Question #199 of 200

Question ID: 415017

Which of the following statements *best* describes risk aversion?

- X **A)** There is an indirect relationship between expected returns and expected risk.
- ✓ **B)** Given a choice between two assets of equal return, the investor will choose the asset with the least risk.
- X **C)** The investor will always choose the asset with the least risk.

### Explanation

Risk aversion is best defined as: given a choice between two assets of equal return, the investor will choose the asset with the least risk. The investor will not always choose the asset with the least risk or the asset with the least risk and least return. As well, there is a positive, not indirect, relationship between risk and return.

## References

**Question From:** Session 12 > Reading 42 > LOS h

### **Related Material:**

- Key Concepts by LOS
- 

## **Question #200 of 200**

Question ID: 414995

Stock A has a standard deviation of 4.1% and Stock B has a standard deviation of 5.8%. If the stocks are perfectly positively correlated, which portfolio weights minimize the portfolio's standard deviation?

<u>Stock A</u>	<u>Stock B</u>
X <b>A)</b> 0%	100%
✓ <b>B)</b> 100%	0%
X <b>C)</b> 63%	37%

## Explanation

Because there is a perfectly positive correlation, there is no benefit to diversification. Therefore, the investor should put all his money into Stock A (with the lowest standard deviation) to minimize the risk (standard deviation) of the portfolio.

## References

**Question From:** Session 12 > Reading 42 > LOS f

### **Related Material:**

- Key Concepts by LOS