




Question #1 of 95

Question ID: 1456281

Consider the following statements about the geometric and arithmetic means as measures of central tendency. Which statement is *least* accurate?

- A) The difference between the geometric mean and the arithmetic mean increases with an increase in variability between period-to-period observations. 
- B) The geometric mean may be used to estimate the average return over a one-period time horizon because it is the average of one-period returns. 
- C) The geometric mean calculates the rate of return that would have to be earned each year to match the actual, cumulative investment performance. 

Explanation

The *arithmetic* mean may be used to estimate the average return over a one-period time horizon because it is the average of one-period returns. Both remaining statements are true.

(Module 2.3, LOS 2.h)

Question #2 of 95

Question ID: 1456266

What is the compound annual growth rate for stock A which has annual returns of 5.60%, 22.67%, and -5.23%?

- A) 7.08%. 
- B) 6.00%. 
- C) 8.72%. 

Explanation




Compound annual growth rate is the geometric mean. $(1.056 \times 1.2267 \times 0.9477)^{1/3} - 1 = 7.08\%$

(Module 2.3, LOS 2.g)

Question #3 of 95

Question ID: 1456240

Which of the following *best* describes a frequency distribution? A frequency distribution is a grouping of:

- A) data into groups, the numerical order of which does not matter. 
- B) measures used to describe a population. 
- C) data into non-overlapping intervals. 

Explanation

A frequency distribution is a presentation of data grouped into non-overlapping intervals to aid the analysis of large data sets.

(Module 2.1, LOS 2.c)

Question #4 of 95

Question ID: 1456261

A linear or nonlinear relationship between two variables is best visualized using a:

- A) cumulative distribution chart. 
- B) bubble line chart. 
- C) scatter plot. 

Explanation

A scatter plot is useful for visualizing the relationship between two variables. An advantage of scatter plots is that they can reveal nonlinear relationships that measures of linear relationship such as correlation might not show.

(Module 2.2, LOS 2.e)

Question #5 of 95

Question ID: 1456295

Assume that the following returns are a sample of annual returns for firms in the clothing industry.

Firm 1	Firm 2	Firm 3	Firm 4	Firm 5
15%	2%	5%	(7%)	0%

The sample standard deviation is *closest* to:

- A) 7.2. 

B) 5.7.



C) 8.0.



Explanation

The sample variance is found by taking the sum of all squared deviations from the mean and dividing by $(n - 1)$.

$$[(15 - 3)^2 + (2 - 3)^2 + (5 - 3)^2 + (-7 - 3)^2 + (0 - 3)^2] / (5 - 1) = 64.5$$

The sample standard deviation is found by taking the square root of the sample variance.
 $\sqrt{64.5} = 8.03$

(Module 2.4, LOS 2.j)

Question #6 of 95

Question ID: 1456305

An investment experienced the following returns over the last 10 years:

Year	Return
1	2%
2	9%
3	8%
4	-5%
5	6%
6	8%
7	9%
8	-3%
9	10%
10	3%

Using a target return of 4%, the target semideviation of returns over the period is *closest* to:

A) 4.26%.



B) 3.87%.



C) 5.29%.



Explanation

Year	Return	Deviations below 4%	Squared deviations
1	2.00%	-2.00%	0.0004
2	9.00%		
3	8.00%		
4	-5.00%	-9.00%	0.0081
5	6.00%		
6	8.00%		
7	9.00%		
8	-3.00%	-7.00%	0.0049
9	10.00%		
10	3.00%	-1.00%	0.0001
TOTAL			0.0135

$$\text{Target semideviation} = \sqrt{\frac{0.0135}{10-1}} = 0.0387 = 3.87\%$$

(Module 2.4, LOS 2.k)

Question #7 of 95

Question ID: 1482626

If Stock X's expected return is 30% and its expected standard deviation is 5%, Stock X's expected coefficient of variation is:

A) 0.167.



B) 1.20.



C) 6.0.



Explanation

The coefficient of variation is the standard deviation divided by the mean: $5 / 30 = 0.167$.

(Module 2.4, LOS 2.j)

Question #8 of 95

Question ID: 1456306

Annualized monthly returns from an investment strategy over the past year are as follows:

6%	3%	7%	8%	2%	-1%	6%	9%	4%	11%	7%	6%
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Using a target annualized return of 5%, the target downside deviation of these returns is *closest* to:

A) 2%.



B) 3%.



C) 4%.



Explanation

$$\begin{aligned}\text{downside deviation} &= \sqrt{\frac{\sum_{\text{all } X_i < B}^n (X_i - B)^2}{n-1}} \\ &= \sqrt{\frac{(3-5)^2 + (2-5)^2 + (-1-5)^2 + (4-5)^2}{12-1}} = 2.132\%\end{aligned}$$

(Module 2.4, LOS 2.k)

Question #9 of 95

Question ID: 1456264

An investor has a portfolio with 10% cash, 30% bonds, and 60% stock. If last year's return on cash was 2.0%, the return on bonds was 9.5%, and the return on stock was 25%, what was the return on the investor's portfolio?

A) 11.77%.



B) 12.17%.



C) 18.05%.



Explanation

Find the weighted mean of the returns. $(0.10 \times 0.02) + (0.30 \times 0.095) + (0.60 \times 0.25) = 18.05\%$




Asset	Weight	Return	Weight × Return
Cash	10%	2%	$10\% \times 2\% = 0.2\%$
Bonds	30%	9.5%	$30\% \times 9.5\% = 2.85\%$
Stock	60%	25%	$60\% \times 25\% = 15\%$
Weighted Average Return $\Sigma \text{ Weight} \times \text{Probability}$			18.05%

(Module 2.3, LOS 2.g)

Question #10 of 95

Question ID: 1456235

Which of the following is most likely an example of structured data?

- A) Social media posts. 
- B) Management's discussion and analysis of a company's financial condition. 
- C) Daily closing prices for a stock over the past month. 

Explanation

Daily closing prices for a stock are an example of structured data. Social media posts and the management discussion and analysis are examples of unstructured data, in that they consist largely of written text.

(Module 2.1, LOS 2.a)

Question #11 of 95

Question ID: 1482623

The sample of per square foot sales for 100 U.S. retailers in December 2004 is an example of:

- A) cross-sectional data. 
- B) time-series data. 
- C) panel data. 

Explanation

Cross-sectional data are a sample of observations taken at a single point in time. A time-series is a sample of observations taken at specific and equally spaced points in time. Panel data consist of a cross-section of time series data.

(Module 2.1, LOS 2.a)

Question #12 of 95

Question ID: 1456248

Use the results from the following survey of 500 firms to answer the question.

Number of Employees	Frequency
300 up to 400	40
400 up to 500	62
500 up to 600	78
600 up to 700	101
700 up to 800	131
800 up to 900	88

The cumulative relative frequency of the second interval (400 to 500) is:

- A) 10.2%.
- B) 12.4%.
- C) 20.4%.



Explanation

$62 + 40 = 102$, $102 / 500 = 0.204$ or 20.4%

(Module 2.1, LOS 2.c)

Question #13 of 95

Question ID: 1456255

A frequency polygon is best suited to summarizing:

- A) unstructured textual data.



B) a distribution of numerical data.



C) underlying trends over time.



Explanation

A frequency polygon depicts the shape and range of a distribution.

(Module 2.2, LOS 2.e)

Question #14 of 95

Question ID: 1456312

If a distribution is positively skewed, then generally:

A) mean > median < mode.



B) mean < median < mode.



C) mean > median > mode.



Explanation

When a distribution is positively skewed the right side tail is longer than normal due to outliers. The mean will exceed the median, and the median will generally exceed the mode because large outliers falling to the far right side of the distribution can dramatically influence the mean.

(Module 2.5, LOS 2.I)

Question #15 of 95

Question ID: 1456257

A scatter plot matrix is best suited to visualize:

A) trends in more than one variable over time.



B) correlations among multiple variables.



C) the joint variability between two variables.



Explanation

A scatter plot matrix is a set of scatter plots that is useful for visualizing correlations among multiple pairs of variables.

(Module 2.2, LOS 2.e)

Question #16 of 95

Question ID: 1456260

Which of the following tools is best suited for visualizing the relative changes over time in the daily closing prices for two stocks?

A) Heat map.



B) Line chart.



C) Bar chart.



Explanation

A line chart is a graph used to visualize ordered observations such as data series over time. Two or more lines can appear on the same chart to show the relative changes in variables.

(Module 2.2, LOS 2.e)

Question #17 of 95

Question ID: 1456243

Twenty students take an exam. The percentages of questions they answer correctly are ranked from lowest to highest as follows:

32 49 57 58 61

62 64 66 67 67

68 69 71 72 72

74 76 80 82 83

In a frequency distribution from 30% to 90% that is divided into six equal-sized intervals, the absolute frequency of the sixth interval is:

A) 2.



B) 3.



C) 4.



Explanation

The intervals are $30\% \leq x < 40\%$, $40\% \leq x < 50\%$, $50\% \leq x < 60\%$, $60\% \leq x < 70\%$, $70\% \leq x < 80\%$, and $80\% \leq x \leq 90\%$. There are 3 scores in the range $80\% \leq x \leq 90\%$.

(Module 2.1, LOS 2.c)

Question #18 of 95

Question ID: 1462765

An analyst observes the following four annual returns: $R_1 = +10\%$, $R_2 = -15\%$, $R_3 = 0\%$, and $R_4 = +5\%$. The average compound annual rate over the four years is *closest* to:

A) -0.5%.



B) 0.0%.



C) -5.0%.

**Explanation**

$$G = [(1.10)(0.85)(1.00)(1.05)]^{0.25} - 1$$

$$G = (0.98175)^{0.25} - 1 = 0.9954 - 1 = -0.00459 \approx -0.5\%$$

Note: Taking a number to the 0.25 power is the same as taking the fourth root of the number. (Module 2.3, LOS 2.g)

Question #19 of 95

Question ID: 1456272

Michael Philizaire decides to calculate the geometric average of the appreciation/depreciation of his home over the last five years. Using comparable sales and market data he obtains from a local real estate appraiser, Philizaire calculates the year-to-year percentage change in the value of his home as follows: 20, 15, 0, -5, -5. The geometric return is *closest* to:

A) 0.00%.



B) 11.60%.



C) 4.49%.

**Explanation**

The geometric return is calculated as follows:

$$[(1 + 0.20) \times (1 + 0.15) \times (1 + 0.0) (1 - 0.05) (1 - 0.05)]^{1/5} - 1,$$

$$\text{or } [1.20 \times 1.15 \times 1.0 \times 0.95 \times 0.95]^{0.2} - 1 = 0.449, \text{ or } \mathbf{4.49\%}.$$

(Module 2.3, LOS 2.g)

A sample of returns for four randomly selected assets in a portfolio is shown below:

Asset	Return (%)
A	1.3
B	1.4
C	2.2
D	3.4

What is the sample standard deviation of asset returns?

A) 0.88%.



B) 0.97%.



C) 1.13%.



Explanation

The sample standard deviation equals the square root of the sum of the squares of the position returns less the mean return, divided by the number of observations in the sample *minus one*.

Position	Return (%)	(Return - Mean) ²
A	1.3	0.60
B	1.4	0.46
C	2.2	0.02
D	3.4	1.76
Mean	8.3/4 = 2.075	Sum = 2.83
Std. Dev. = $[2.83 / (4 - 1)]^{0.5} = 0.97$		

(Module 2.4, LOS 2.j)

The annual returns on 5 portfolio investments for the last year are shown in the following table. What is the return on the portfolio and the geometric mean of the returns on the portfolio investments?

Investment	Invested Amount	Return (%)
A	10,000	12
B	10,000	14
C	10,000	9
D	10,000	13
E	10,000	7

A) 11.00; 10.78.



B) 11.00; 10.97.



C) 11.64; 10.97.



Explanation

Arithmetic Mean: $12 + 14 + 9 + 13 + 7 = 55$; $55 / 5 = 11$

Geometric Mean: $[(1.12 \times 1.14 \times 1.09 \times 1.13 \times 1.07)^{1/5}] - 1 = 10.97\%$

(Module 2.3, LOS 2.g)

Question #22 of 95

Question ID: 1456311

Twenty Level I CFA candidates in a study group took a practice exam and want to determine the distribution of their scores. When they grade their exams they discover that one of them skipped an ethics question and subsequently filled in the rest of his answers in the wrong places, leaving him with a much lower score than the rest of the group. If they include this candidate's score, their distribution will *most likely*:

A) have a mean that is less than its median.



B) have a mode that is less than its median.



C) be positively skewed.



Explanation

With the low outlier included, the distribution will be negatively skewed. For a negatively skewed distribution, the mean is less than the median, which is less than the mode.




(Module 2.5, LOS 2.I)

Question #23 of 95

Question ID: 1480013

Trina Romel, mutual fund manager, is taking over a poor-performing fund from a colleague. Romel wants to calculate the return on the portfolio. Over the last five years, the fund's annual percentage returns were: 25, 15, 12, -8, and -14.

Determine if the geometric return of the fund will be less than or greater than the arithmetic return and calculate the fund's geometric return:

<u>Geometric Return</u>	<u>Geometric compared to Arithmetic</u>	
A) 12.86%	greater than	
B) 4.96%	greater than	
C) 4.96%	less than	

Explanation

The geometric return is calculated as follows:

$$[(1 + 0.25)(1 + 0.15)(1 + 0.12)(1 - 0.08)(1 - 0.14)]^{1/5} - 1,$$

$$\text{or } [1.25 \times 1.15 \times 1.12 \times 0.92 \times 0.86]^{0.2} - 1 = 0.4960, \text{ or } \mathbf{4.96\%}.$$

The geometric return will always be less than or equal to the arithmetic return. In this case the arithmetic return was 6%.

(Module 2.3, LOS 2.g)

Question #24 of 95

Question ID: 1456250

An analyst presents a confusion matrix for a model that predicts loan payment defaults by companies:

	Actual Default	Actual No Default	Total
Predicted default	175	25	200
Predicted no default	50	30	80
Total	225	55	280

Based on the confusion matrix, how many companies did the model incorrectly predict would not default on their loan payments?

A) 30.



B) 50.



C) 80.



Explanation

For 50 companies, the model incorrectly predicted that they would not default on their loan payments (i.e., predicted "no" and actual default "yes"). The total number of companies predicted not to default is 80, and for 30 companies the model correctly predicted that they would not default (i.e., predicted "no" and actual default "no").

(Module 2.1, LOS 2.d)

Question #25 of 95

Question ID: 1456297

An analyst takes a sample of yearly returns of aggressive growth funds resulting in the following data set: 25, 15, 35, 45, and 55. The mean absolute deviation (MAD) of the data set is closest to:

A) 16.



B) 12.



C) 20.



Explanation

Calculate the mean:

$$\frac{25+15+35+45+55}{5} = 35$$

To get the mean absolute deviation, sum the deviations around the mean (ignoring the sign), and divide by the number of observations:




$$\frac{10+20+0+10+20}{5} = 12$$

(Module 2.4, LOS 2.j)

Question #26 of 95

Question ID: 1456319

Which of the following statements concerning a distribution with positive skewness and positive excess kurtosis is *least* accurate?

- A) The mean will be greater than the mode. 
- B) It has a lower percentage of small deviations from the mean than a normal distribution. 
- C) It has fatter tails than a normal distribution. 

Explanation




A distribution with positive excess kurtosis has a higher percentage of small deviations from the mean than normal. So it is more "peaked" than a normal distribution. A distribution with positive skew has a mean > mode.

(Module 2.5, LOS 2.m)

Question #27 of 95

Question ID: 1456287

What does it mean to say that an observation is at the sixty-fifth percentile?

- A) The observation falls within the 65th of 100 intervals. 
- B) 65% of all the observations are above that observation. 
- C) 65% of all the observations are below that observation. 

Explanation




If the observation falls at the sixty-fifth percentile, 65% of all the observations fall below that observation.

(Module 2.4, LOS 2.i)

Question #28 of 95

Question ID: 1456323

The correlation between two variables is -0.74 . The *most appropriate* way to interpret this correlation is that:

- A) there is unlikely to be a strong linear relationship between the two variables. 
- B) if one of the variables increases, there is a 74% probability that the other variable will decrease. 
- C) the two variables have a negative linear association. 

Explanation

A correlation coefficient of -0.74 suggests a relatively strong negative linear association between the two variables. We cannot interpret the correlation coefficient directly as a measure of the probability that the two variables will change in opposite directions.

(Module 2.5, LOS 2.n)

Question #29 of 95

Question ID: 1456268

For the last four years, the returns for XYZ Corporation's stock have been 10.4%, 8.1%, 3.2%, and 15.0%. The equivalent compound annual rate is:

- A) 9.2%. 
- B) 9.1%. 
- C) 8.9%. 

Explanation

$$(1.104 \times 1.081 \times 1.032 \times 1.15)^{0.25} - 1 = 9.1\%$$

(Module 2.3, LOS 2.g)

Question #30 of 95

Question ID: 1456273

An investor has a \$12,000 portfolio consisting of \$7,000 in stock P with an expected return of 20% and \$5,000 in stock Q with an expected return of 10%. What is the investor's expected return on the portfolio?

A) 30.0%.



B) 15.8%.



C) 15.0%.



Explanation

Here we need to multiply the returns by the proportion that each stock represents in the portfolio then sum.

Stock	Return	Invested	Proportion of Portfolio	Return × Proportion
P	20%	\$7,000	7/12	20% × 7/12
Q	10%	\$5,000	5/12	10% × 5/12
Total		\$12,000		15.83%

(Module 2.3, LOS 2.g)

Question #31 of 95

Question ID: 1462766

A company reports its past six years' earnings growth at 10%, 14%, 12%, 10%, -10%, and 12%. The company's average compound annual growth rate of earnings is *closest* to:

A) 7.7%.



B) 8.5%.



C) 8.0%.



Explanation

Geometric mean = $[(1.10)(1.14)(1.12)(1.10)(0.90)(1.12)]^{1/6} - 1 = 0.0766$, or 7.66% (Module 2.3, LOS 2.g)

Question #32 of 95

Question ID: 1456258

Which of the following tools best captures the distribution of returns for a particular stock?

A) Scatter plot.



B) Histogram.



C) Heat map.



Explanation

A histogram depicts the shape and range of a distribution of numerical data.

(Module 2.2, LOS 2.e)

Question #33 of 95

Question ID: 1456270

The owner of a company has recently decided to raise the salary of one employee, who was already making the highest salary in the company, by 40%. Which of the following value(s) is (are) expected to be affected by this raise?

A) mean only.



B) both mean and median.



C) median only.



Explanation

Mean is affected because it is the sum of all values / number of observations. Median is not affected as it is the midpoint between the top half of values and the bottom half of values.

(Module 2.3, LOS 2.g)

Question #34 of 95

Question ID: 1456290

Given the following annual returns, what is the mean absolute deviation?

2000	2001	2002	2003	2004
15%	2%	5%	-7%	0%

A) 0.0%.



B) 3.0%.



C) 5.6%.



Explanation

The mean absolute deviation is found by taking the mean of the absolute values of deviations from the mean. $(|15 - 3| + |2 - 3| + |5 - 3| + |-7 - 3| + |0 - 3|) / 5 = 5.60\%$

(Module 2.4, LOS 2.j)

Question #35 of 95

Question ID: 1456283

An analyst compiles the returns on Fund Q over the last four years:

Year	Return
1	4%
2	3%
3	2%
4	30%

Which of the following will result in the *lowest* measure of the mean return?

A) The arithmetic mean.



B) The geometric mean.



C) The harmonic mean.

**Explanation**

$$\text{Harmonic mean} = \frac{4}{\frac{1}{1.04} + \frac{1}{1.03} + \frac{1}{1.02} + \frac{1}{1.30}} - 1 = 0.0864 = 8.64\%$$

$$\text{Geometric mean} = [(1.04)(1.03)(1.02)(1.30)]^{\frac{1}{4}} - 1 = 0.0917 = 9.17\%$$

$$\text{Arithmetic mean} = \frac{4\% + 3\% + 2\% + 30\%}{4} = 9.75\%$$

(Module 2.3, LOS 2.h)

Question #36 of 95

Question ID: 1462764

Which of the following statements about the frequency distribution shown below is *least accurate*?

Return Interval	Frequency
0% to 5%	10
> 5% to 10%	20
> 10% to 15%	30
> 15% to 20%	20

A) The cumulative absolute frequency of the fourth interval is 20.



B) The relative frequency of the second return interval is 25%.



C) The return intervals are mutually exclusive.



Explanation

The cumulative absolute frequency of the fourth interval is 80, which is the sum of the absolute frequencies from the first to the fourth intervals. (Module 2.1, LOS 2.c)

Question #37 of 95

Question ID: 1456282

The following annualized monthly return measures have been calculated for an investment based on its performance over the last 72 months.

Arithmetic mean	6.8%
Geometric mean	6.0%
90% Winsorized mean	5.5%

If for one month in the period the return was extremely high, which measure *best* reflects the central tendency of the investment's returns?

A) Geometric mean.



B) Winsorized mean.



C) Arithmetic mean.



Explanation




A winsorized mean is a technique for removing the distorting effects of outliers by replacing them with less extreme values. The arithmetic and geometric means are based on all observations and therefore include the impact of outliers.

(Module 2.3, LOS 2.h)

Question #38 of 95

Question ID: 1456247

Monthly returns for a set of small cap stocks are 1.3%, 0.8%, 0.5%, 3.4%, -3.5%, -1.2%, 1.8%, 2.1%, and 1.5%. An analyst constructs a frequency distribution and a frequency polygon using the following intervals: -4.0% to -2.0%, -2.0% to 0.0%, 0.0% to 2.0%, and 2.0% to 4.0%. Which of the following statements about these data presentations is *least* accurate?

- A) The absolute frequency of the interval 0.0% to 2.0% is 5. 
- B) A frequency polygon plots the midpoint of each interval on the horizontal axis and the absolute frequency of that interval on the vertical axis. 
- C) The relative frequency of the interval -2.0% to 0.0% equals the relative frequency of the interval 2.0% to 4.0%. 

Explanation

When completed, the frequency distribution table should look as follows:

Frequency Distribution of Monthly Small Cap Stock Returns		
Interval	Absolute Frequency	Relative Frequency
-4.0% to -2.0%	1	11.1%
-2.0% to 0.0%	1	11.1%
0.0% to 2.0%	5	55.6%
2.0% to 4.0%	2	22.2%
Total	9	100.0%

The relative frequency of the interval -2.0% to 0.0% *does not* equal the relative frequency of the interval 2.0% to 4.0%.

(Module 2.1, LOS 2.c)

Question #39 of 95

Question ID: 1456314

If an analyst concludes that the distribution of a large sample of returns is positively skewed, which of the following relationships involving the mean, median, and mode is *most likely*?

A) Mean > median < mode.



B) Mean > median > mode.



C) Mean < median < mode.



Explanation

For the positively skewed distribution, the mode is less than the median, which is less than the mean. (Module 2.5, LOS 2.I)

Question #40 of 95

Question ID: 1456253

In a frequency distribution histogram, the frequency of an interval is given by the:

A) height multiplied by the width of the corresponding bar.



B) height of the corresponding bar.



C) width of the corresponding bar.



Explanation

In a histogram, intervals are placed on the horizontal axis, and frequencies are placed on the vertical axis. The frequency of a particular interval is given by the value on the vertical axis, or the height of the corresponding bar.

(Module 2.2, LOS 2.e)

Question #41 of 95

Question ID: 1456263

An investor has the following assets:

- \$5,000 in bonds with an expected return of 8%.
- \$10,000 in equities with an expected return of 12%.
- \$5,000 in real estate with an expected return of 10%.

What is the portfolio's expected return?

A) 10.00%.



B) 10.50%.



C) 11.00%.



Explanation

Expected return is the weighted average of the individual expected values. The expected return is: $[(5,000) \times (10.00) + (5,000) \times (8.00) + (10,000) \times (12.00)] / 20,000 = 10.50\%$.

(Module 2.3, LOS 2.g)

Question #42 of 95

Question ID: 1456267

The respective arithmetic mean and geometric mean returns of the following series of stock market returns are:

Year 1	14%
Year 2	6%
Year 3	-5%
Year 4	20%

A) 8.75%; 8.34%.



B) 8.90%; 8.62%.



C) 8.75%; 8.62%.



Explanation

$(14 + 6 + (-5) + 20) / 4 = 8.75$.

$((1.14 \times 1.06 \times 0.95 \times 1.20)^{0.25} - 1 = 8.34\%$.

(Module 2.3, LOS 2.g)

Question #43 of 95

Question ID: 1456313

Which of the following statements concerning skewness is *least accurate*? A distribution with:

A) skew equal to 1 is not symmetrical.



B) negative skewness has a large number of outliers on its left side.



C) positive skewness has a long left tail.



Explanation

A distribution with positive skewness has long *right* tails.

(Module 2.5, LOS 2.l)

Question #44 of 95

Question ID: 1456318

A distribution of returns that has a greater percentage of small deviations from the mean and a greater percentage of large deviations from the mean compared to a normal distribution:

- A) has positive excess kurtosis.
- B) is positively skewed.
- C) has negative excess kurtosis.



Explanation

A distribution that has a greater percentage of small deviations from the mean and a greater percentage of large deviations from the mean will be leptokurtic and will exhibit positive excess kurtosis. The distribution will be taller (more peaked) with fatter tails than a normal distribution.

(Module 2.5, LOS 2.m)

Question #45 of 95

Question ID: 1456298

If the historical mean return on an investment is 2.0%, the standard deviation is 8.8%, and the risk free rate is 0.5%, what is the coefficient of variation (CV)?

- A) 0.23.
- B) 0.17.
- C) 4.40.



Explanation

The CV = the standard deviation of returns / mean return
 $= 8.8\% / 2.0\% = 4.4.$

The CV is a measure of risk per unit of mean return. When ranking portfolios based on the CV, a lower value is preferred to higher.

(Module 2.4, LOS 2.j)

Question #46 of 95

Question ID: 1456289

What are the median and the third quintile of the following data points, respectively?

9.2%, 10.1%, 11.5%, 11.9%, 12.2%, 12.8%, 13.1%, 13.6%, 13.9%, 14.2%, 14.8%,
14.9%, 15.4%

A) 13.1%; 13.7%.



B) 12.8%; 13.6%.



C) 13.1%; 13.6%.

**Explanation**

The median is the midpoint of the data points. In this case there are 13 data points and the midpoint is the 7th term.

The formula for determining quantiles is: $L_y = (n + 1)(y) / (100)$. Here, we are looking for the third quintile (60% of the observations lie below) and the formula is: $(14)(60) / (100) = 8.4$.

The third quintile falls between 13.6% and 13.9%, the 8th and 9th numbers from the left. Since L is not a whole number, we interpolate as: $0.136 + (0.40)(0.139 - 0.136) = 0.1372$, or 13.7%.

(Module 2.4, LOS 2.i)

Question #47 of 95

Question ID: 1456322

A portfolio's monthly returns follow a distribution with a kurtosis measure of 4.2. Relative to a portfolio with normally distributed returns, this portfolio has a:

A) lower probability of extreme upside returns and higher chance of extreme downside returns.



B) higher probability of extreme upside returns and higher chance of extreme downside returns.



C) higher probability of extreme upside returns and lower chance of extreme downside returns.

**Explanation**

A leptokurtic distribution (a distribution with kurtosis measure greater than 3) is more peaked in the middle (data more clustered around the mean) and has fatter tails at the extremes (greater probability of outliers).

(Module 2.5, LOS 2.m)

Question #48 of 95

Question ID: 1456271

For the investments shown in the table below:

Investment	Return (%)
A	12
B	14
C	9
D	13
E	7
F	8
G	12

Which of the following statements is *most accurate*?

- A) The mean is equal to the median.
- B) The mean is equal to the mode.
- C) The median is equal to the mode.

**Explanation**

The median is the mid-point or central number of returns arranged from highest to lowest or lowest to highest. In this case: 7, 8, 9, **12**, 12, 13, 14. The median return is 12%. The mode is the return that occurs most frequently. In this case, 12% is also the mode. The mean is $75 / 7 = 10.71\%$.

(Module 2.3, LOS 2.g)

Question #49 of 95

Question ID: 1456254

A scatter plot is *best* interpreted as displaying the:

- A) relationship of a dependent variable with an independent variable.
- B) paired observations of two variables.
- C) behavior of a variable over time.

**Explanation**




Scatter plots display paired observations of two variables. They do not require the two variables to have a dependent relationship, but they can be a tool for analyzing whether one of the variables is dependent on the other.

(Module 2.2, LOS 2.e)

Question #50 of 95

Question ID: 1456320

Which of the following statements about kurtosis is *least* accurate? Kurtosis:

- A) measures the peakedness of a distribution reflecting a greater or lesser concentration of returns around the mean. 
- B) describes the degree to which a distribution is not symmetric about its mean. 
- C) is used to reflect the probability of extreme outcomes for a return distribution. 

Explanation

The degree to which a distribution is not symmetric about its mean is measured by skewness. Excess kurtosis which is measured relative to a normal distribution, indicates the peakedness of a distribution, and also reflects the probability of extreme outcomes.

(Module 2.5, LOS 2.m)

Question #51 of 95

Question ID: 1456249

Market Capitalization

Style	Small-cap stocks	Large-cap stocks
Value stocks	5	20
Growth stocks	25	50

In the contingency table above, the values shown are:

- A) joint frequencies. 
- B) relative frequencies. 
- C) marginal frequencies. 

Explanation

The values shown in the table are joint frequencies. For example, 20 is the joint frequency of large-cap stocks and value stocks. Marginal frequencies and relative frequencies can be calculated from this table. For example, the marginal frequency of growth stocks is $25 + 50 = 75$, and the relative frequency of value stocks among small-cap stocks is $5 / (5 + 25) = 16.7\%$.

(Module 2.1, LOS 2.d)

Question #52 of 95

Question ID: 1456280

Over the last five years, an investment fund's monthly returns were relatively stable apart from last year, where two extremely high returns were recorded. If the arithmetic mean for the fund's monthly returns over the period is 6.7%, a trimmed or winsorized mean return is *most likely* to be:

- A) equal to the arithmetic mean.
- B) lower than the arithmetic mean.
- C) higher than the arithmetic mean.



Explanation

A trimmed mean discards a percentage of the highest and lowest observations, while a winsorized mean replaces a percentage of the highest and lowest observations with less extreme values. In this case the arithmetic mean would be influenced by the two highly positive returns, while a trimmed or winsorized mean would adjust for them and would likely be lower than the arithmetic mean.

(Module 2.3, LOS 2.g)

Question #53 of 95

Question ID: 1456285

The following data points are observed returns.

4.2%, 6.8%, 7.0%, 10.9%, 11.6%, 14.4%, 17.0%, 19.0%, 22.5%

What return lies at the 70th percentile (70% of returns lie below this return)?

- A) 14.4%.
- B) 17.0%.
- C) 19.0%.



Explanation

With 9 observations, the location of the 70th percentile is $(9 + 1)(70 / 100) = 7$. The seventh observation in ascending order is 17.0%.

(Module 2.4, LOS 2.i)

Question #54 of 95

Question ID: 1456236

A two-dimensional array is most appropriate for organizing data on annual earnings per share for:

- A) 100 companies in the most recent period.
- B) ABC Ltd over the last five years.
- C) banking sector companies over the last three years.



Explanation

"Banking sector companies" and "the last three years" represent two dimensions. One company's earnings per share over the last five years is a time series, and earnings per share for 100 companies in the most recent period are a cross section, either of which require only a one-dimensional array.

(Module 2.1, LOS 2.b)

Question #55 of 95

Question ID: 1456308

In a positively skewed distribution, what is the order (from lowest value to highest) for the distribution's mode, mean, and median values?

- A) Mode, median, mean.
- B) Mode, mean, median.
- C) Mean, median, mode.



Explanation

In a positively skewed distribution, the mode is less than the median, which is less than the mean.

(Module 2.5, LOS 2.I)

Question #56 of 95

Question ID: 1456286

Consider the following set of stock returns: 12%, 23%, 27%, 10%, 7%, 20%, 15%. The third quartile is:

A) 20.0%.



B) 21.5%.



C) 23%.



Explanation

The third quartile is calculated as: $L_y = (7 + 1) (75/100) = 6$. When we order the observations in ascending order: 7%, 10%, 12%, 15%, 20%, 23%, 27%, "23%" is the sixth observation from the left.

(Module 2.4, LOS 2.i)

Question #57 of 95

Question ID: 1456292

Cameron Ryan wants to make an offer on the condominium he is renting. He takes a sample of prices of condominiums in his development that closed in the last five months. Sample prices are as follows (amounts are in thousands of dollars): \$125, \$175, \$150, \$155 and \$135. The sample standard deviation is *closest* to:

A) 38.47.



B) 19.24.



C) 370.00.



Explanation

Calculations are as follows:

1. Sample mean = $(125 + 175 + 150 + 155 + 135) / 5 = 148$

2. Sample Variance = $[(125 - 148)^2 + (175 - 148)^2 + (150 - 148)^2 + (155 - 148)^2 + (135 - 148)^2] / (5 - 1) = 1,480 / 4 = 370$

3. Sample Standard Deviation = $370^{1/2} = 19.24\%$.

(Module 2.4, LOS 2.j)

Question #58 of 95

Question ID: 1456300

What is the coefficient of variation for a distribution with a mean of 10 and a variance of 4?

A) 20%.



B) 25%.



C) 40%.



Explanation

Coefficient of variation, $CV = \text{standard deviation} / \text{mean}$. The standard deviation is the square root of the variance, or $4^{1/2} = 2$. So, $CV = 2 / 10 = 20\%$.

(Module 2.4, LOS 2.j)

Question #59 of 95

Question ID: 1456315

For a unimodal distribution with negative skewness:

A) the mode is less than the median.



B) the median is greater than the mean.



C) the mean is greater than the mode.



Explanation

For a distribution with negative skewness, $\text{mean} < \text{median} < \text{mode}$.

(Module 2.5, LOS 2.l)

Question #60 of 95

Question ID: 1456234

The dividend yields for several stocks over each of the last five years are best characterized as:

A) times series data.



B) cross-sectional data.



C) panel data.



Explanation

Panel data are a combination of time series and cross-sectional data. Dividend yields for several stocks are cross-sectional data, and data for each stock over the last five years are time series.

(Module 2.1, LOS 2.a)

Question #61 of 95

Question ID: 1456299

Returns for a portfolio over the last four years are shown below. Treating these returns as a sample, what is their coefficient of variation (CV)?

Year	Return
1	17.0%
2	12.2%
3	3.9%
4	-8.4%

A) 1.56.



B) 1.80.



C) 0.55.



Explanation

The coefficient of variation is equal to the standard deviation of returns divided by the mean return.

Mean return = $(17.0\% + 12.2\% + 3.9\% - 8.4\%) / 4 = 6.175\%$

Year	Return	$(R - 6.175\%)^2$
1	17.0%	117.18
2	12.2%	36.30
3	3.9%	5.18
4	-8.4%	212.43
		Sum = 371.09

Sample standard deviation = $[371.09 / (4 - 1)]^{0.5} = 11.12\%$

Coefficient of variation = $11.12\% / 6.175\% = 1.80$

(Module 2.4, LOS 2.j)

Question #62 of 95

Question ID: 1456309

For a positively skewed distribution, the median is greater than:

- A) the mean, but less than the mode.
- B) the mode, but less than the mean.
- C) both the mode and the mean.



Explanation

For a positively skewed distribution, the mean is greater than the median, and the median is greater than the mode. Their order reverses for a negatively skewed distribution.

(Module 2.5, LOS 2.I)

Question #63 of 95

Question ID: 1456288

What is the seventh decile of the following data points?

81	84	91	97	102	108	110	112	115	121
128	135	138	141	142	147	153	155	159	162

- A) 142.0.
- B) 141.7.
- C) 141.0.



Explanation

The formula for determining quantiles is: $L_y = (n + 1)(y) / (100)$. Here, we are looking for the seventh decile (70% of the observations lie below) and the formula is: $(21)(70) / (100) = 14.7$. The seventh decile falls between 141.0 and 142.0, the fourteenth and fifteenth numbers from the left. Since L is not a whole number, we interpolate as: $141.0 + (0.70)(142.0 - 141.0) = 141.7$.

(Module 2.4, LOS 2.i)

Question #64 of 95

Question ID: 1482627

The mean monthly return on a security is 0.42% with a standard deviation of 0.25%. What is the coefficient of variation?

A) 168%.



B) 60%.



C) 84%.



Explanation

The coefficient of variation expresses how much dispersion exists relative to the mean of a distribution and is found by $CV = s / \text{mean}$, or $0.25 / 0.42 = 0.595$, or 60%.

(Module 2.4, LOS 2.j)

Question #65 of 95

Question ID: 1456239

Given the following frequency distribution:

Interval	Frequency
10 up to 30	5
30 up to 50	10
50 up to 70	15
70 up to 90	5

Which of the following statements is *least* accurate?

A) The number of observations is greater than 30.



B) The absolute frequency of the third interval is 15.



C) The relative frequency of the second interval is less than 15%.



Explanation

The relative interval frequency is (interval frequency) / (total number) = 28.57%. The number of observations is $5 + 10 + 15 + 5 = 35$.

(Module 2.1, LOS 2.c)

Question #66 of 95

Question ID: 1456252

Which of the following indicates the frequency of an interval in a frequency distribution histogram?

- A) Width of the corresponding bar.
- B) Horizontal logarithmic scale.
- C) Height of the corresponding bar.



Explanation

In a histogram, intervals are placed on horizontal axis, and frequencies are placed on the vertical axis. The frequency of the particular interval is given by the value on the vertical axis, or the height of the corresponding bar.

(Module 2.2, LOS 2.e)

Question #67 of 95

Question ID: 1456229

An analyst is asked to calculate standard deviation using monthly returns over the last five years. These data are *best* described as:

- A) time series data.
- B) unstructured data.
- C) cross-sectional data.



Explanation

Time series data are taken at equally spaced intervals, such as monthly, quarterly, or annual. Cross sectional data are taken at a single point in time. An example of cross-sectional data is dividend yields on 500 stocks as of the end of a year.

(Module 2.1, LOS 2.a)

Question #68 of 95

Question ID: 1456321

Which of the following statements concerning kurtosis is *most* accurate?

- A) A distribution with kurtosis of +2 has fatter tails than a normal distribution.
- B) A leptokurtic distribution has excess kurtosis less than zero.
- C) A leptokurtic distribution has fatter tails than a normal distribution.



Explanation




A leptokurtic distribution is more peaked than normal and has fatter tails. However, the excess kurtosis is greater than zero.

(Module 2.5, LOS 2.m)

Question #69 of 95

Question ID: 1456251

Which of the following statements about histograms and frequency polygons is *least accurate*?

- A) A frequency polygon is constructed by plotting the midpoint of each interval on the horizontal axis. 
- B) A histogram and a frequency polygon both plot the absolute frequency on the vertical axis. 
- C) A histogram connects points with a straight line. 

Explanation

In constructing a frequency polygon, the midpoint of each interval is plotted on the horizontal axis and the frequency of each interval is plotted on the vertical axis. Points are then connected with straight lines. A histogram is a bar chart of data that has been grouped into a frequency distribution – because it is a bar chart, there are no individual points to connect.

(Module 2.2, LOS 2.e)

Question #70 of 95

Question ID: 1456242

Use the results from the following survey of 500 firms to answer the question.

Number of Employees	Frequency
300 up to 400	40
400 up to 500	62
500 up to 600	78
600 up to 700	101
700 up to 800	131
800 up to 900	88

The cumulative absolute frequency for the interval 500 up to 600 is:

A) 36.



B) 78.



C) 180.



Explanation

The cumulative absolute frequency for the interval 500 up to 600 is $40 + 62 + 78 = 180$.

(Module 2.1, LOS 2.c)

Question #71 of 95

Question ID: 1456231

Categorical or qualitative data types include:

A) continuous data.



B) discrete data.



C) ordinal data.



Explanation

Ordinal data types are categorical (qualitative) data that can be ranked in logical order but cannot be subject to arithmetic operations. For example, a list of this week's 10 best-selling books does not convey by how much the #1 book outsold the #2 book.

Discrete data and continuous data are types of nominal or quantitative data. These are data types on which arithmetic operations can be performed. For example, data on cash or unit sales for this week's 10 best-selling books allow us to make statements such as "the #1 book outsold the #2 book by 10%."

(Module 2.1, LOS 2.a)

Question #72 of 95

Question ID: 1456262

A portfolio is equally invested in Stock A, with an expected return of 6%, and Stock B, with an expected return of 10%, and a risk-free asset with a return of 5%. The expected return on the portfolio is:

A) 7.0%.



B) 7.4%.



C) 8.0%.

**Explanation**

$$(0.333)(0.06) + (0.333)(0.10) + 0.333(0.05) = 0.07$$

(Module 2.3, LOS 2.g)

Question #73 of 95

Question ID: 1456256

A bubble line chart is best suited to summarizing data with:

A) two dimensions.



B) one dimension.



C) three dimensions.

**Explanation**

A bubble line chart is a version of a line chart where data points are replaced with varying sized bubbles to represent a third dimension of the data (i.e., one not represented by either the vertical or horizontal axis).

(Module 2.2, LOS 2.e)

Question #74 of 95

Question ID: 1456237

Information on inflation rates experienced by South American countries over each of the last five years is best organized in:

A) a two-dimensional array.



B) neither a one nor two-dimensional array.



C) a one-dimensional array.



Explanation

The information is an example of panel data and requires a two-dimensional array because there are multiple countries and multiple years.

(Module 2.1, LOS 2.b)

Question #75 of 95

Question ID: 1456241

Which of the following statements regarding frequency distributions is *least* accurate?

Frequency distributions:

A) work with all types of measurement scales.



B) summarize data into a relatively small number of intervals.



C) organize data into overlapping groups.



Explanation

Data in a frequency distribution must belong to only one group or interval. Intervals are mutually exclusive and non-overlapping.

(Module 2.1, LOS 2.c)

Question #76 of 95

Question ID: 1456238

GDP growth rates experienced by the UK over each of the last 10 years are most appropriately organized in:

A) a one-dimensional array.



B) a two-dimensional array.



C) both a one or two-dimensional array.



Explanation

A one-dimensional array is used when tabulating a single variable.

(Module 2.1, LOS 2.b)

Question #77 of 95

Question ID: 1456279

An analyst calculates a winsorized mean return of 3.2% for an investment fund. This measure *most likely*:

- A) replaces outliers with less extreme returns.
- B) equally weights all returns.
- C) captures the compounded growth rate of the fund.



Explanation

The winsorized mean is a technique for dealing with outliers. For example, a 90% winsorized mean replaces the lowest 5% of values with the fifth percentile, and replaces the highest 5% of values with the 95th percentile. The arithmetic mean weights all observations equally. The geometric mean captures the compounded growth rate of the fund.

(Module 2.3, LOS 2.g)

Question #78 of 95

Question ID: 1456294

For the past three years, Acme Corp. has generated the following sample returns on equity (ROE): 4%, 10%, and 1%. What is the sample variance of the ROE over the last three years?

- A) 21.0%.
- B) 21.0(%²).
- C) 4.6%.



Explanation

$$[(4 - 5)^2 + (10 - 5)^2 + (1 - 5)^2] / (3 - 1) = 21(\%^2).$$

(Module 2.4, LOS 2.j)

Question #79 of 95

Question ID: 1456307

A distribution with a mode of 10 and a range of 2 to 25 would *most likely* be:

- A) negatively skewed.
- B) positively skewed.



C) normally distributed.



Explanation

The distance to the left from the mode to the beginning of the range is 8. The distance to the right from the mode to the end of the range is 15. Therefore, the distribution is skewed to the right, which means that it is positively skewed.

(Module 2.5, LOS 2.I)

Question #80 of 95

Question ID: 1456316

A distribution that has positive excess kurtosis is:

A) more peaked than a normal distribution.



B) more skewed than a normal distribution.



C) less peaked than a normal distribution.



Explanation

A distribution with positive excess kurtosis is more peaked and has fatter tails than a normal distribution.

(Module 2.5, LOS 2.m)

Question #81 of 95

Question ID: 1456246

Given the following frequency distribution:

Return	Frequency
-10% up to 0%	5
0% up to 10%	7
10% up to 20%	9
20% up to 30%	6
30% up to 40%	3

What is the relative frequency of the 0% to 10% interval?

A) 23.3%.



B) 12%.



C) 7%.



Explanation

Total number of frequencies = $5 + 7 + 9 + 6 + 3 = 30$.

The relative frequency of the 0% - 10% interval is its frequency (7) as a proportion of the total frequency: $7 / 30 = 23.3\%$.

(Module 2.1, LOS 2.c)

Question #82 of 95

Question ID: 1456233

The dividend yield of the S&P 500 index is least likely an example of:

A) numerical data.



B) nominal data.



C) continuous data.



Explanation

Nominal data are categorical data that cannot be ordered in a logical manner. An example would be industry classifications by GICS. The dividend yield of the S&P 500 is an example of numerical data as it represents measured or counted quantities. It is also an example of continuous data as the dividend yield can take on any numerical value within a range of specified values.

(Module 2.1, LOS 2.a)

Question #83 of 95

Question ID: 1462767

An analyst gathers the following data about the mean monthly returns of three securities:

Security	Mean Monthly Return	Standard Deviation
X	0.9	0.7
Y	1.2	4.7
Z	1.5	5.2

Which security has the highest level of relative risk as measured by the coefficient of variation?

A) Z.



B) X.



C) Y.



Explanation

The coefficient of variation, $CV = \text{standard deviation} / \text{arithmetic mean}$, is a common measure of relative dispersion (risk). $CV_X = 0.7 / 0.9 = 0.78$; $CV_Y = 4.7 / 1.2 = 3.92$; and $CV_Z = 5.2 / 1.5 = 3.47$. Because a higher CV means higher relative risk, Security Y has the highest relative risk. (Module 2.4, LOS 2.j)

Question #84 of 95

Question ID: 1456291

Find the respective mean and the mean absolute deviation (MAD) of a series of stock market returns.

Year 1	14%
Year 2	20%
Year 3	24%
Year 4	22%

A) 20%; 3%.



B) 22%; 3%.



C) 20%; 12%.



Explanation

$$(14 + 20 + 24 + 22) / 4 = 20 \text{ (mean)}$$

Take the absolute value of the differences and divide by n:

$$MAD = [|14 - 20| + |20 - 20| + |24 - 20| + |22 - 20|] / 4 = 3\%.$$

(Module 2.4, LOS 2.j)

Question #85 of 95

Question ID: 1456269

Given the following annual returns, what are the geometric and arithmetic mean returns, respectively?

2002	2003	2004	2005	2006
15%	2%	5%	-7%	0%

A) 1.45%; 3.00%.



B) 2.75%; 3.00%.



C) 2.75%; 5.80%.



Explanation

Geometric Mean: $(1.15 \times 1.02 \times 1.05 \times 0.93 \times 1.0)^{1/5} - 1 = 1.1454^{1/5} - 1 = 2.75\%$

Arithmetic Mean: $(15\% + 2\% + 5\% - 7\% + 0\%) / 5 = 3.00\%$

(Module 2.3, LOS 2.g)

Question #86 of 95

Question ID: 1456259

Which of the following tools is most appropriate for visualizing how frequently certain words appear in a set of social media posts?

A) Histogram.



B) Word cloud.



C) Tree map.



Explanation

A word cloud is a visual way of representing unstructured textual data. Each word is displayed in a size proportional to its frequency in the text.

(Module 2.2, LOS 2.e)

Question #87 of 95

Question ID: 1456278

A 5% trimmed mean ignores the:

A) highest and lowest 2.5% of observations.



B) highest and lowest 5% of observations.



C) lowest 5% of observations.



Explanation

A 5% trimmed means discards the highest 2.5% and lowest 2.5% of observations and is the arithmetic average of the remaining 95% of observations.

(Module 2.3, LOS 2.g)

Question #88 of 95

Question ID: 1456310

In a negatively skewed distribution, what is the order (from lowest value to highest) for the distribution's mode, mean, and median values?

A) Mean, median, mode.



B) Mode, mean, median.



C) Median, mode, mean.



Explanation

In a negatively skewed distribution, the mean is less than the median, which is less than the mode.

(Module 2.5, LOS 2.I)

Question #89 of 95

Question ID: 1456265

Given the following set of data:

17, 3, 13, 3, 5, 9, 8

The value 8 is *most accurately* described as the:

A) mean.



B) median.



C) mode.



Explanation

Median = middle of distribution = 8 (middle number);

Mean = $(3 + 3 + 5 + 8 + 9 + 13 + 17) / 7 = 8.28$;

Mode = most frequent observation = 3.

(Module 2.3, LOS 2.g)

Question #90 of 95

Question ID: 1456245

Given the following frequency distribution:

Return	Frequency
-10% up to 0%	5
0% up to 10%	7
10% up to 20%	9
20% up to 30%	6
30% up to 40%	3

What is the cumulative relative frequency of the 20% up to 30% return interval?

A) 90%.



B) 10%.



C) 70%.



Explanation

Total number of observations = 30.

Cumulative relative frequency = $(5 + 7 + 9 + 6) / 30 = 90\%$

(Module 2.1, LOS 2.c)

Question #91 of 95

Question ID: 1456302

The mean monthly return on a sample of small stocks is 4.56% with a standard deviation of 3.56%. If the risk-free rate is 1%, what is the coefficient of variation?

A) 0.78.



B) 1.00.



C) 1.28.



Explanation

The coefficient of variation expresses how much dispersion exists relative to the mean of a distribution. It is a measure of risk per unit of mean return.

$CV = s / \text{mean}$. $3.56 / 4.56 = 0.781$, or 78%.

(Module 2.4, LOS 2.j)

Question #92 of 95

Question ID: 1456296

Annual Returns on ABC Mutual Fund									
Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
11.0%	12.5%	8.0%	9.0%	13.0%	7.0%	15.0%	2.0%	-16.5%	11.0%

Assuming a mean of 7.2%, what is the sample standard deviation of the returns for ABC Mutual Fund for the period from Year 1 to Year 10?

A) 7.8%.



B) 9.1%.



C) 9.8%.



Explanation

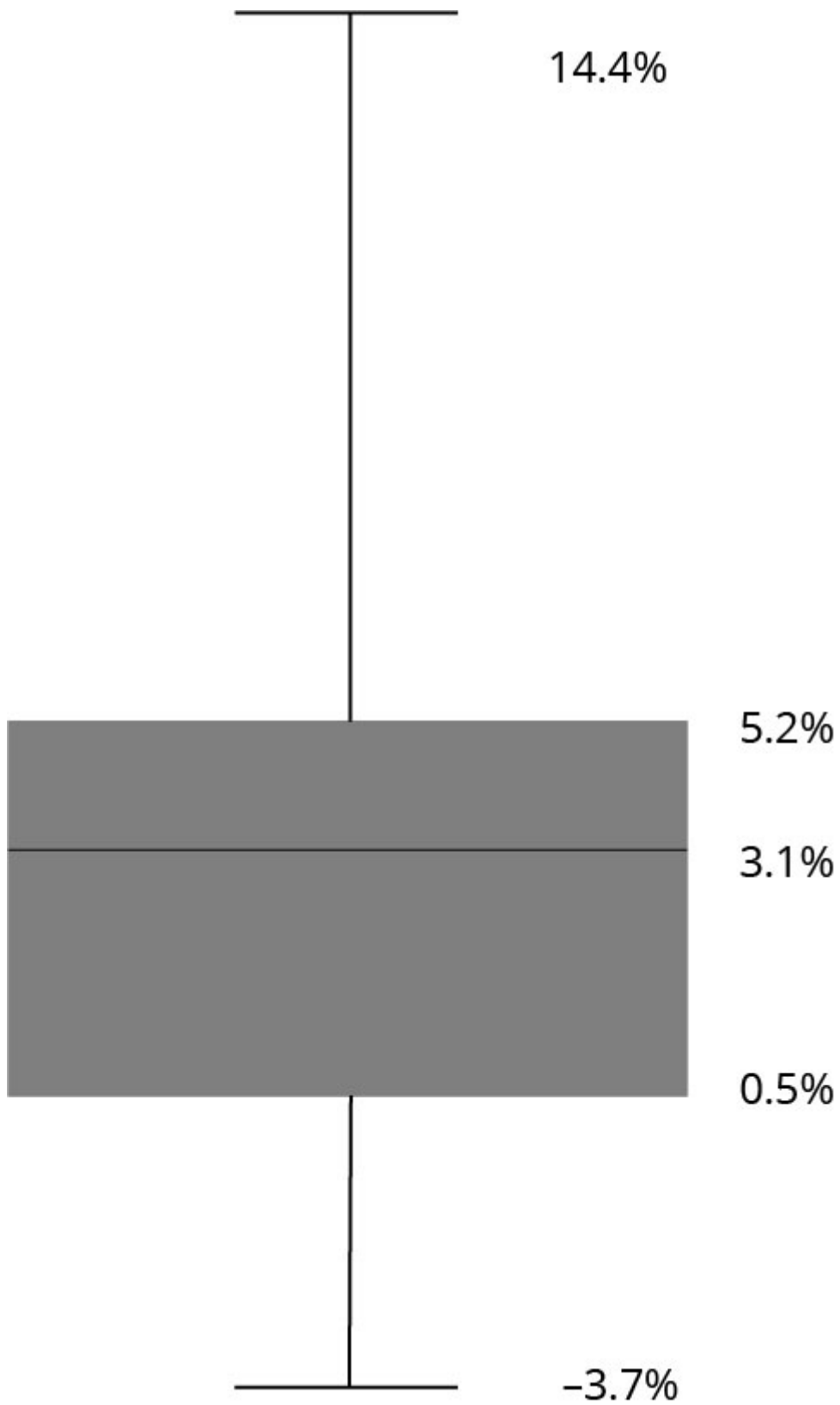
Standard deviation = $[\sum_i (x_i - \bar{X})^2 / (n - 1)]^{1/2} = (744.10 / 9)^{1/2} = 9.1\%$.

(Module 2.4, LOS 2.j)

Question #93 of 95

Question ID: 1456284

Given the following box-and-whisker plot:



The interquartile range is:

- A) 0.5% to 5.2%.
- B) 0.5% to 3.1%.
- C) 3.1% to 5.2%.



Explanation

The interquartile range is from the first quartile (25th percentile) to the third quartile (75th percentile) and is represented as the box in a box-and-whisker plot. The horizontal line within the box represents the median (50th percentile).

(Module 2.4, LOS 2.i)

Question #94 of 95

Question ID: 1456317

A distribution that is more peaked than a normal distribution is termed:

A) platykurtic.



B) leptokurtic.



C) skewed.



Explanation

A distribution that is more peaked than normal is leptokurtic. A leptokurtic distribution has fatter tails compared to a normal distribution. This means there is a greater chance of observing extreme outcomes. Market returns are leptokurtic.

A distribution that is flatter than a normal distribution is termed platykurtic.

(Module 2.5, LOS 2.m)

Question #95 of 95

Question ID: 1456232

Panel data are most accurately described as:

A) a type of time series data.



B) a combination of time series and cross-sectional data.



C) a type of cross-sectional data.



Explanation

Panel data combine time series and cross-sectional data into a single display, typically a table. For example, annual rates of return for the last 10 years (time series) can be shown for selected companies' common stocks (cross-section).

(Module 2.1, LOS 2.a)