

---

# Latest Version

## Question: 1

On an income statement, net sales minus cost of goods sold equals:

- A. operating income.
- B. net income.
- C. gross profit.
- D. pretax profit.

**Answer: C**

## Question: 2

Company B has the following summarized Statement of Cash Flows for the year. Company B is MOST likely in what stage of the business life-cycle?

- A. Start-up - fast growing
- B. Profitable - moderate growth
- C. Mature - no growth
- D. Declining - shrinking

**Answer: B**

## Question: 3

Company A is a large passenger airline. As part of their annual internal budget process they do a sensitivity analysis of their revenue forecast over their existing routes and schedules. The analysis evaluates the impact of a three percent decline in passenger revenue compared to a three percent increase. Which of the following expenses would show the largest change in the analysis?

- A. Aircraft maintenance expense
- B. Salary expenses for flight crew
- C. Depreciation and amortization expense
- D. Income tax expense

**Answer: D**

## Question: 4

Exhibit:

Monthly Stock Returns for Company A		Monthly Stock Returns for Company B	
Mean	4.50%	Mean	2.06%
Standard Error	1.67%	Standard Error	1.60%
Median	3.25%	Median	2.87%
Mode	#N/A	Mode	#N/A
Standard Deviation	5.79%	Standard Deviation	5.54%
Sample Variance	0.34%	Sample Variance	0.31%
Range	17.48%	Range	17.70%
Minimum	-3.53%	Minimum	-7.71%
Maximum	13.95%	Maximum	9.99%
Sum	53.94%	Sum	24.69%
Count	12	Count	12

A recent graduate is interested in investing in a stock. This individual is particularly interested in retail companies and has been following two companies closely for the past year. In order to decide which stock to invest in, this individual decides to compare monthly returns for both companies over the past year. A table of descriptive statistics is given below. What can be said about Company A regarding risk and average returns in relation to Company B?

- A. Company A has higher average monthly returns and is relatively more risky than Company B
- B. Company A has higher average monthly returns and is relatively less risky than Company B
- C. Company A has lower average monthly returns and is relatively more risky than Company B
- D. Company A has lower average monthly returns and is relatively less risky than Company B

**Answer: B**

## Question: 5

A trainer believes that a new workout regimen has helped athletes score more points per game. If the previous mean for points scored per player per game was 5.3, which alternative hypothesis below is the trainer trying to substantiate?

- A.  $\mu = 5.3$
- B.  $\mu = 5.3$
- C.  $\mu > 5.3$
- D.  $\mu < 5.3$

**Answer: C**

### Question: 6

In which situation would it be appropriate to use time-series data?

- A. To study changes in the unemployment rate
- B. To compare unemployment rates for various education levels
- C. To relate unemployment rates in various countries
- D. To analyze the unemployment rate for different age groups

**Answer: A**

### Question: 7

Which of the following options is an example of a biased question? (Select all that apply.)

- A. Should the federal minimum wage be changed?
- B. What should the federal minimum wage be?
- C. Should Congress increase the federal minimum wage?
- D. Would it be better to replace the federal minimum wage with a living wage?
- E. Should the federal minimum wage be increased even though it would cost private businesses billions of dollars?

**Answer: D,E**

### Question: 8

A 95% confidence interval for a sample of data is as follows: Sample Mean: 90.5 Upper Bound: 98 Lower Bound: 83

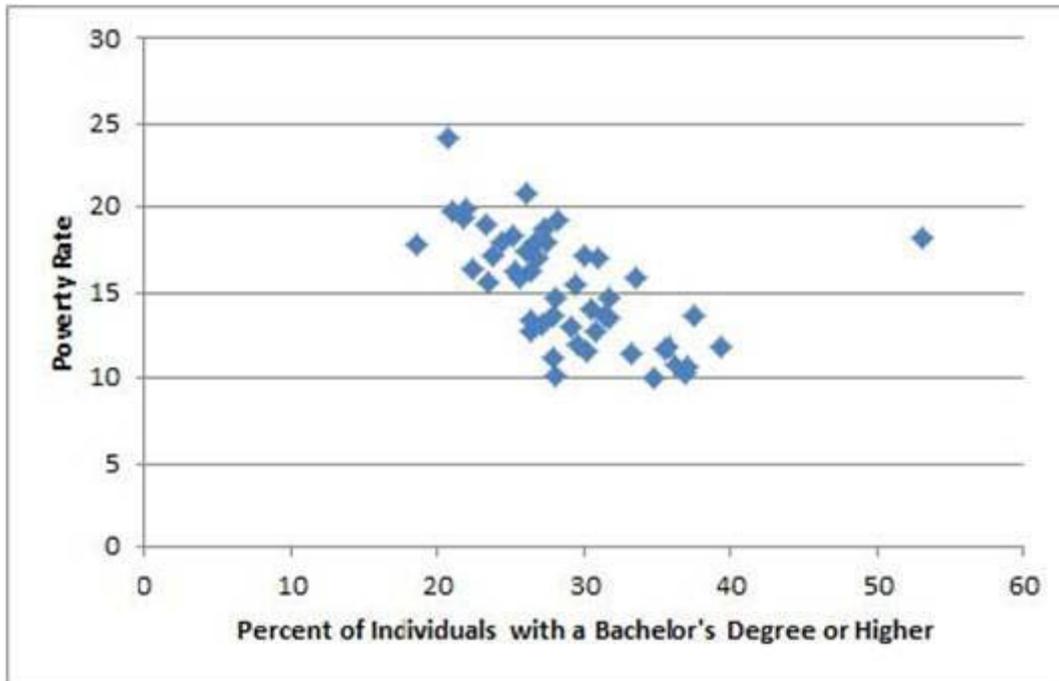
Given this data, the tester is 95% confident that:

- A. all of the observations will fall between 83 and 98.
- B. the sample mean of 90.5 equals the true population mean.
- C. the true population mean falls between 83 and 98.
- D. the sample mean falls between 83 and 98.

**Answer: C**

### Question: 9

What is the approximate poverty rate for the outlier in the scatterplot below?



- A. 10%
- B. 18%
- C. 25%
- D. 53%

**Answer: B**

**Question: 10**

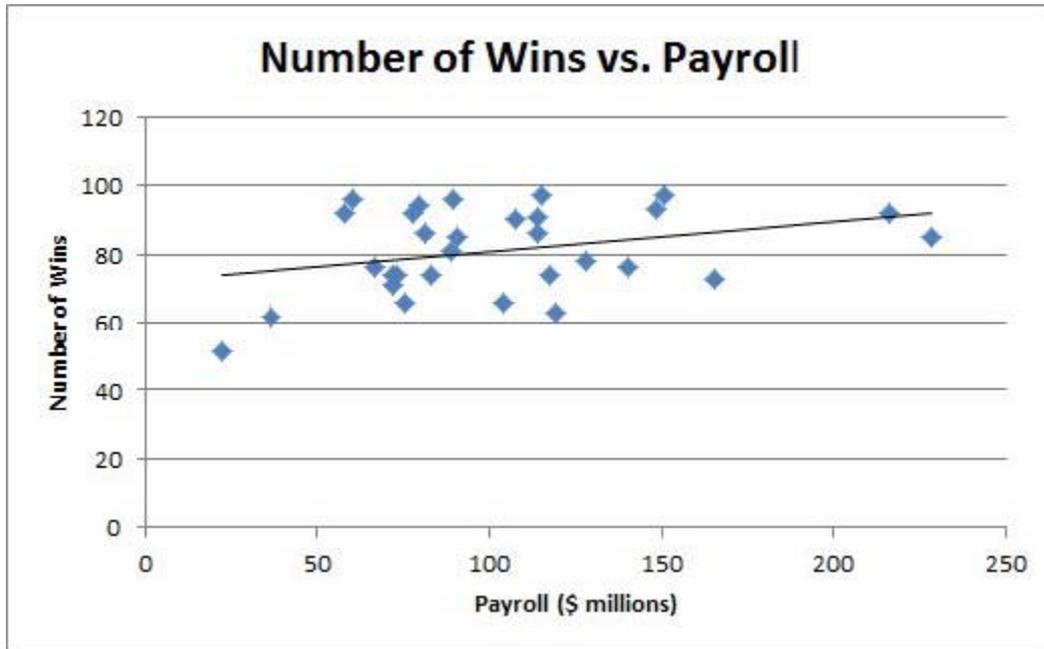
A mutual fund manager believes that a new research method will provide better returns for clients. The manager's historical monthly return prior to the new research method was 0.46%. After the manager began using the new method the monthly return was 0.57%. After running a hypothesis test, the manager saw that the one sided p-value was 0.029. Assuming a 95% confidence level, which of the conclusions below would be correct?

- A. Do not reject the null hypothesis and continue using the new method.
- B. Reject the null hypothesis and continue using the new method.
- C. Do not reject the null hypothesis and begin using the old method.
- D. Reject the null hypothesis and begin using the old method.

**Answer: B**

**Question: 11**

Exhibit:



The scatterplot below shows the relationship between the number of wins for 30 Major League Baseball teams in 2013 and their respective payrolls. The best fit line is included in the scatterplot. Which option below MOST accurately describes the best fit line shown?

- A.  $y = 72.08 - 0.09x$
- B.  $y = 72.08 + 0.09x$
- C.  $y = 0.09 + 72.08x$
- D.  $y = 0.09 - 72.08x$

**Answer: B**

**Question: 12**

SUMMARY OUTPUT						
Dependent Variable: Winning Percentage						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.50	0.00	168.49	0.0000	0.49	0.51
Point Differential per Game	0.03	0.00	52.68	0.0000	0.03	0.03

The partial regression output table below describes the relationship between point differential per game and winning percentage for all 30 National Basketball Association teams for the last five seasons. (For a team, the point differential per game is the difference between average points scored and average points allowed per game.) Based on this information, a decrease in point differential of one point per game would have what effect, on average, on a team's winning percentage?

- A. An increase in winning percentage of 0.03
- B. An increase in winning percentage of 0.50

- C. A decrease in winning percentage of 0.03
- D. A decrease in winning percentage of 0.50

**Answer: C**

**Question: 13**

A music executive is trying to determine the effect that advertising expenditures (in dollars) have on digital music sales. After gathering sales data from the previous 12 quarters, the executive finds the effect that advertising expenditures have on digital music sales can be described by the following equation:

Digital music sales = 9,500 + 0.15\*(advertising expenditures)

Based on this equation, which of the statements below is correct?

- A. Each additional \$1.00 spent on advertising increases digital music sales by 9,500 units on average.
- B. Each additional \$1.00 spent on advertising increases digital music sales by \$0.15 on average.
- C. Each additional \$0.15 spent on advertising increases digital music sales by \$1.00 on average.
- D. Each additional \$1,000 spent on advertising increases digital music sales by \$0.15 on average.

**Answer: B**

**Question: 14**

An executive at an insurance company has developed a new method for determining monthly rates for drivers insured by the company. Using a regression analysis of different factors, the executive has come to the conclusion that the two most important factors are the value of the car and the number of miles the driver lives from the city. The partial regression output table provided by the data is as follows:

SUMMARY OUTPUT						
Dependent Variable: Cost of Car Insurance (\$ Dollars)						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	250.00	1699.18	3.09	0.0052	225.35	255.76
Car Value (\$)	0.01	0.01	13.04	0.0000	0.01	0.02
Miles from City Center	-45.50	647.32	2.74	0.0034	-55.50	-33.75

Given this information, how much could a driver expect to pay per month for a car worth \$45,000 located three miles from the city center?

- A. \$250.00
- B. \$313.50
- C. \$563.50
- D. \$836.50

**Answer: C**

### Question: 15

A city concerned about its youth unemployment rate decided to offer a new vocational training program in the hopes of decreasing youth unemployment. Before the program began, the youth unemployment rate was 18%. Four years after the program began, the rate had fallen to 14%. What is the correct null and alternative hypothesis pair for this situation?

- A.  $H_0: <14%$   $H_A: 14%$
- B.  $H_0: 14%$   $H_A: <14%$
- C.  $H_0: <18%$   $H_A: 18%$
- D.  $H_0: 18%$   $H_A: <18%$

**Answer: D**

### Question: 16

A student wants to know the probability of getting a value less than  $-0.76$  in a standard normal distribution ( $\mu=0, \sigma=1$ ). The student finds that the area under the curve to the left of positive  $0.76$  is  $0.7764$ . What is the probability of getting a value less than  $-0.76$ ?

- A. 22.36%
- B. 27.64%
- C. 76.00%
- D. 77.64%

**Answer: A**

### Question: 17

A professor asks a class of 100 students to spend the weekend sampling the heights of adults. After each student samples 30 adults, the student is then asked to calculate the mean of his or her sample. As the professor collects the individual sample results from each student, which of the options below is the MOST likely to be observed?

- A. As more samples are collected, the average of the sample means increases but will not converge to the true population mean.
- B. As more samples are collected, the average of the sample means decreases but will not converge to the true population mean.
- C. As more samples are collected, the sample means may vary but the average of the sample means will converge to the true population mean.
- D. As more samples are collected, the sample means will converge to the true population mean.

**Answer: C**

### Question: 18

A college has recently finished building a new dining hall on campus. School administrators wish to survey students regarding their thoughts on the new dining hall. Which of the options below represents a correct sampling method?

- A. An administrator surveys the first 50 students that arrive to hear a guest speaker.
- B. The school posts a survey on their Facebook page and collects responses from current students.
- C. The administrators randomly select students from each class who are then surveyed via phone.
- D. An administrator surveys the first 50 students that enter the new dining hall that evening.

**Answer: C**

### Question: 19

A student is interested in which factors affect the U.S. poverty rate and develops a model using the following independent variables:

The unemployment rate  
The percent of the adult (over 25) population with at least a bachelor's degree  
The percent of the population without health insurance

The student collects data from each of the 50 states in the U.S. and Washington D.C. for the year 2012 and runs the regression in Excel. The results of this regression are given below. Based on these results, what does the model predict the poverty rate would be for a state for which the unemployment rate is 6%, 20% of all adults over 25 have at least a bachelor's degree, and 5% of the population does not have health insurance?

SUMMARY OUTPUT						
Dependent Variable: Poverty Rate (%)						
<i>Regression Statistics</i>						
Multiple R		0.7465				
R Square		0.5572				
Adjusted R Square		0.5290				
Standard Error		0.02				
Observations		51				
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	3	0.03	0.01	19.72	0.0000	
Residual	47	0.02	0.00			
Total	50	0.05				
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.13	0.03	4.64	0.0000	0.07	0.18
Unemployment Rate	0.84	0.18	4.80	0.0000	0.49	1.20
Bachelor's degree or higher	-0.22	0.07	-3.32	0.0018	-0.35	-0.08
Percent Uninsured	0.10	0.10	1.04	0.3025	-0.09	0.30

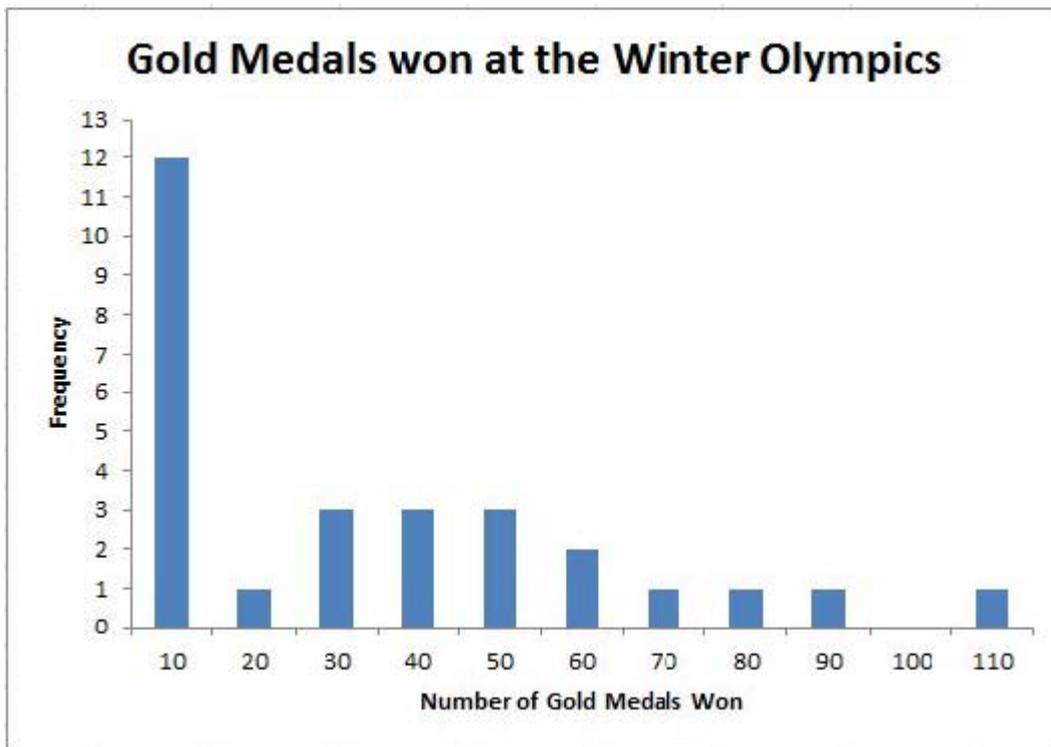
(Note that all percent values are given as numbers between 0 and 1.)

- A. 1.14%
- B. 1.27%
- C. 14.14%
- D. 26.48%

**Answer: C**

**Question: 20**

Exhibit: Based on the histogram below of 28 nations' performances in the Winter Olympic games, in which bin would the median be located?



- A. 10
- B. 20
- C. 30
- D. 40

**Answer: C**