1. 1 Which of the following is the equation for calculating the coefficient of variation (CV)?
   1. **CV = standard deviation/mean**
   2. CV = standard deviation - z-score/mean (total variation)
   3. CV = value of observation's distance from mean/standard deviation
   4. CV = mean/(standard deviation)2
2. Which of the following is the equation for calculating the coefficient of variation (CV)?
   1. CV = standard deviation/mean
   2. CV = standard deviation - z-score/mean (total variation)
   3. CV = value of observation's distance from mean/standard deviation
   4. CV = mean/(standard deviation)2
3. 3 For two variables, a positive correlation coefficient indicates \_\_\_\_\_\_\_\_.
   1. a linear relationship exists for which one variable increases as the other also increases
   2. a linear relationship exists for one variable that increases while the other decreases
   3. that the two variables have no linear relationship with each other
   4. a nonlinear relationship with no linear correlation between the two variables
4. 4 Which of the following types of sampling involves using random procedures to select a sample?
   1. judgment sampling
   2. probabilistic sampling
   3. subjective sampling
   4. convenience sampling
5. 5 Which of the following sampling methods bases its selection of samples on the ease of data collection?
   1. probabilistic sampling
   2. judgment sampling
   3. simple random sampling
   4. **convenience sampling**
6. 15. Which of the following describes periodic sampling?
   1. It is a sampling method based solely on expert opinion.
   2. It is a sampling method based on selecting a time and then sampling the products after that time.
   3. **It is a sampling method based on selecting every *n*th item from a population.**
   4. It is a sampling method exclusively used for population that is divided into subsets.
7. 16. \_\_\_\_\_\_\_\_ sampling applies to populations that are divided into natural subsets and allocates the appropriate proportion of samples to each subset.
   1. Systematic
   2. **Stratified**
   3. Cluster
   4. Continuous process
8. 17. The Ransin Sports Company has noted that the size of individual customer orders is normally distributed with a mean of $112 and a standard deviation of $9. Which of the following is the answer for the probability that the next individual who buys a product will make a purchase of more than $116?
   1. 71%
   2. 48%
   3. 33%
   4. 42%
9. Which of the following is a difference between the *t*-distribution and the standard normal distribution?
   1. The *t*-distribution cannot be calculated without a known standard deviation, while the standard normal distributions can be.
   2. The standard normal distribution's confidence levels are wider than those of the *t*-distribution.
   3. **The *t*-distribution has a larger variance than the standard normal distribution.**
   4. The standard normal distribution is dependent on parameters like degrees of freedom, while *t*-distribution is not.
10. Troista Mobile Accessories sells mobile apps on their Web site. If a customer spends on average, $12 per visit and visits the Web site 20 times each year, what is the average nondiscounted gross profit during a customer's lifetime? Given that Troista makes a margin of 60 percent on the average bill, with 25 percent of customers not returning each year.
    1. $30
    2. $75
    3. $360
    4. $576
11. Use the table below to answer the following question(s).

Below is the profit model spreadsheet for the Lazarus Shoe Company producing their latest model of shoes for the month of January.

|  |  |
| --- | --- |
| Profit Model for Lazarus  Shoe Company for January | (All cost in $) |
|  |  |
| Unit Price | 47 |
| Unit Cost | 22 |
| Fixed Cost for Production | 350,000 |
| Demand | 40,000 |
|  |  |
| Model |  |
|  |  |
| Unit Price | 47 |
| Quantity Sold | 38,000 |
| Revenue |  |
|  |  |
| Unit Cost | 22 |
| Quantity Produced | 38,000 |
| Variable Cost |  |
| Fixed Cost | 300,000 |
|  |  |
| Profit |  |

1. 19. Calculate the revenue for units sold.
   1. $836,000
   2. $1,136,000
   3. $600,000
   4. $1,786,000
2. 20. Calculate the variable cost of production.
   1. $1,786,000
   2. $836,000
   3. $600,000
   4. $1,436,000
3. 21 Calculate the total profit.
   1. $600,000
   2. $1,436,000
   3. $836,000
   4. $1,786,000
4. 32. When a model has a unique optimal solution, it means that \_\_\_\_\_\_\_\_.
   1. the objective is maximized or minimized by more than one combination of decision variables
   2. there is no solution that simultaneously satisfies all the constraints
   3. the Allowable Increase or Allowable Decrease values for changing cells are zero
   4. there is exactly one solution that will result in the maximum or minimum objective