**AP Stat Quiz #1 Unit 1 Name:**

1. The following bar graph shows the distribution of favorite subject for a sample of 1000 students. What is the most serious problem with the bar graph?
   1. The subjects are not listed in the correct order
   2. The distribution should be displayed with a pie chart
   3. The vertical axis should show the percent of students
   4. The vertical axis should start at 0 rather than 100
   5. The foreign language bar should be broken up by languages

|  |  |  |  |
| --- | --- | --- | --- |
|  | 100 or more points | Less than 100 points | Total |
| Win | 43 | 14 | 57 |
| Loss | 4 | 21 | 25 |
| Total | 47 | 35 | 82 |

1. In the 2010–2011 season, the Dallas Mavericks won the NBA championship. The two-way table displays the relationship between the outcome of each game in the regular season and whether the Mavericks scored at least 100 points. Which of the following is the best evidence that there is an association between the outcome of a game and whether the Mavericks score at least 100 points?
   1. The Mavericks won 57 games and lost only 25 games.
   2. The Mavericks scored at least 100 points in 47 games and less than 100 points in only 35 games.
   3. The Mavericks won 43 games when scoring at least 100 points and only 14 games when scoring less than 100 points.
   4. The Mavericks won a higher proportion of games when scoring at least 100 points (43/47) than when they scored less than 100 points (14/35).
   5. The combination of scoring 100 or more points and winning the game occurred more often (43 times) than any other combination of outcomes.
2. Which of the following is the best reason for choosing a stem plot rather than a histogram to display the distribution of a quantitative variable?
   1. Stem-plots allow you to split stems: histograms don’t
   2. Stem-plots allow you to see the values of individual observations
   3. Stem-plots are better for displaying very large sets of data
   4. Stem-plots never require rounding of values
   5. Stem-plots make it easier to determine the shape of a distribution
3. If the distribution is skewed to the right,
   1. The mean must be greater than the median
   2. The mean and median must be equal
   3. The mean must be less than the median
   4. The mean is either equal to or less than the median
   5. It’s impossible to tell without seeing the data
4. During the summer, a group of 10 high school football players decides to eat a new type of protein bar each day before they lift weights. At the end of the summer, each of the players can lift more weight than they could in the beginning of the summer. Based on this study, is it reasonable to conclude that eating the new type of protein bar causes an increase in muscle?
   1. No the number of players in the study was too small
   2. No the group of football players wasn’t randomly selected
   3. No it is possible that factors other than the bars might have caused the increase in muscle
   4. Yes each of the 10 players increased the amount of weight they could lift
   5. Yes because the football players ate the bars everyday
5. An airline has 10 daily flights from Philly to Denver. To assess customer satisfaction, a random sample of 15 passengers from each flight on a single day are asked to fill out a survey about their experiences on the flight. What type of sample is this?
   1. SRS b. Stratified random c. Multistage d. Cluster e. Convenience