Activity 11.2: Statistics & Normal Distributions

A

Name: _____ Partner's name: _____ Date: _____

Directions: Answer each question. Use the 68–95–99.7 rule for normal distributions.

Work alone, then compare after each problem. If answers differ, find the mistake together.

1 Find the mean of the data set: 4, 8, 6, 10, 12.

Answer: _____ Match? ☐ Yes ☐ No

2 Find the median of the data set: 3, 9, 4, 7, 12.

Answer: _____ Match? ☐ Yes ☐ No

3 Find the population standard deviation of 2, 4, 4, 4, 5, 5, 7, 9.

Answer: _____ Match? ☐ Yes ☐ No

4 Test scores are normally distributed with mean 70 and standard deviation 5. What percent of scores are between 65 and 75?

Answer: _____ Match? ☐ Yes ☐ No

5 A score of 85 is on a test with mean 70 and standard deviation 5. Find its z-score.

Answer: _____ Match? ☐ Yes ☐ No

6 Scores are normally distributed with mean 70 and standard deviation 5. What percent of scores are above 80?

Answer: _____ Match? ☐ Yes ☐ No

7 A line of best fit is $y = 2x + 1$. Predict y when $x = 5$.

Answer: _____ Match? ☐ Yes ☐ No

8 The correlation coefficient of a data set is $r = -0.92$. Describe the correlation.

Answer: _____ Match? ☐ Yes ☐ No

Activity 11.2: Statistics & Normal Distributions

B

Name: _____ Partner's name: _____ Date: _____

Directions: Answer each question. Use the 68–95–99.7 rule for normal distributions.

Work alone, then compare after each problem. If answers differ, find the mistake together.

1 Find the mean of the data set: 5, 7, 8, 9, 11.

Answer: _____ Match? ☐ Yes ☐ No

2 Find the median of the data set: 11, 3, 7, 5, 9.

Answer: _____ Match? ☐ Yes ☐ No

3 Find the population standard deviation of 5, 7, 7, 7, 8, 8, 10, 12.

Answer: _____ Match? ☐ Yes ☐ No

4 Heights are normally distributed with mean 100 and standard deviation 15. What percent of heights are between 85 and 115?

Answer: _____ Match? ☐ Yes ☐ No

5 A score of 130 is on a test with mean 100 and standard deviation 10. Find its z-score.

Answer: _____ Match? ☐ Yes ☐ No

6 Weights are normally distributed with mean 100 and standard deviation 15. What percent of weights are above 130?

Answer: _____ Match? ☐ Yes ☐ No

7 A line of best fit is $y = 1.5x + 3.5$. Predict y when $x = 5$.

Answer: _____ Match? ☐ Yes ☐ No

8 The correlation coefficient of a data set is $r = -0.88$. Describe the correlation.

Answer: _____ Match? ☐ Yes ☐ No