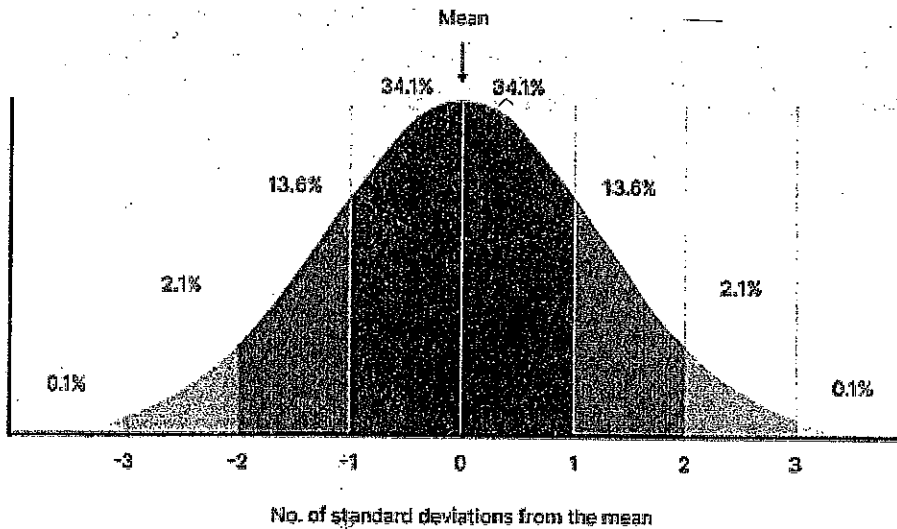


Name _____

8A CC Algebra

Date _____

HW8: The Normal Curve



1. A normal distribution has a mean of 10 and a 1.5 standard deviation.

a) Between which two values do 95% of the data fall? _____

b) Between which two values do 68% of the data fall? _____

2. Suppose the heights, in inches, of U.S. adult males are normally distributed with a mean of 72 and a standard deviation of 2.

a) What percent of men are between 70 and 72? _____

b) What percent of men are at least 76 inches? _____

3. When asked how long they waited in line (in minutes) at a grocery store, ten people responded: 16, 5, 15, 4, 10, 3, 7, 3, 5, and 2.

a) What is the mean wait time? _____

b) Do the data seem to be normally distributed? Explain. _____

4. Andrew is analyzing a normal distribution but the data provided is incomplete. He knows the mean is 120 and that 84% of the data are less than 130. What is the standard deviation?

5. Solve the following system, algebraically, if $3x + 2y = 8$ and $3x - 4y = 14$.

6. 2000 freshmen at State University took a biology test. The scores were distributed normally with a mean of 70 and a standard deviation of 5. Label the mean and three standard deviations from the mean.

- a) What percentage of scores are between scores 65 and 75?
- b) What percentage of scores are between scores 60 and 70?
- c) What percentage of scores are between scores 60 and 85?
- d) What percentage of scores is less than a score of 55?
- e) What percentage of scores is greater than a score of 80?
- f) Approximately how many biology students scored between 60 and 70?
- g) Approximately how many biology students scored between 55 and 60?

Try this one...

7. Here are the scores for a recent test in a college statistics class.

90 90 95 100 80 80 75 80 70 60 95 100 100 100 75 80 90 90 90 70 70 80 85 90 90 85

Median = _____ Mean = _____ Mode = _____

Standard Deviation = _____ Variance = _____

How many scores are within 1 standard deviation of the mean? _____

How many scores are within 2 standard deviations of the mean? _____

