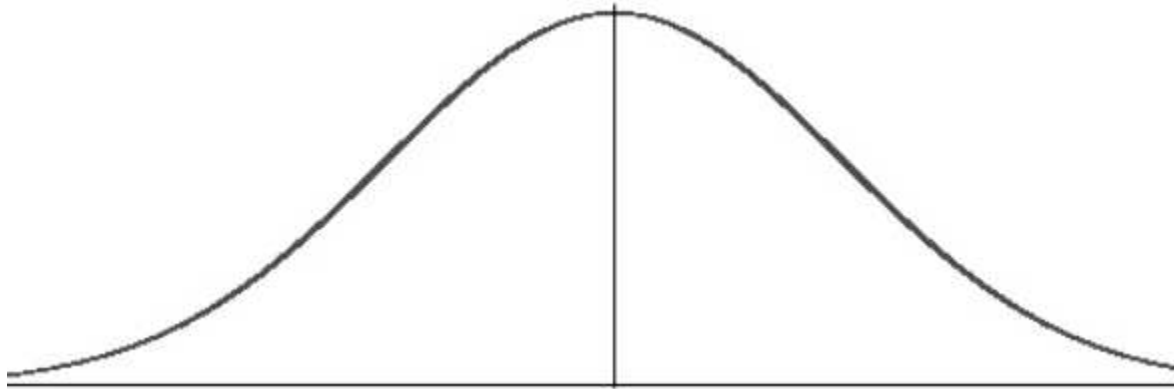


Name _____ Date _____

Quantitative Data in One Variable: The Empirical Rule Independent Practice

1. Kellogg's in Kalamazoo, Michigan has a machine that fills the Fruit Loop cereal boxes with cereal. It dispenses cereal with a normal distribution and has a mean of 24.0 and a standard deviation of .1 ounces.



- A. The middle 95% of cereal boxes contain between _____ and _____ ounces of cereal.
- B. Approximately 68% of cereal boxes have between _____ and _____ ounces of cereal.
- C. What percentage of cereal boxes contain more than 24.2 ounces of cereal?
- D. What is the probability that a randomly selected bottle of cereal contains less than 24.1 ounces of cereal?

2. ACT mathematics score for a particular year are normally distributed with a mean of 27 and a standard deviation of 2 points.

A. What is the probability that a randomly selected score is greater than 29 points?

B. What percentage of students scores are between 31 and 23?

C. A student who scores a 31 is in the _____ percentile.

3. Mr. Barnett's test is normally distributed with a mean of 65 and a standard deviation of 5 points.

A. What is the probability that a randomly selected score is greater than 75 points?

B. What percentage of students scores are between 60 and 70?

C. A student who scores a 80 is in the _____ percentile.

4. The number of beats per minute that a hummingbird's wings flap is normally distributed with a mean of 145 and a standard deviation of 2.

A. What is the probability that a randomly selected hummingbird's flaps his wing greater than 151 times a minute?

B. What percentage of hummingbird's flap their wings between 141 and 149?

C. A hummingbird who flaps his wings 153 times a minute is in the _____ percentile.