Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**One Variable Statistics**

**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.



1. The middle $95\%$ of cereal boxes contain between \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_ ounces of cereal.
2. Approximately $68\%$ of cereal boxes have between \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_ ounces of cereal.
3. What percentage of cereal boxes contain more than $24.2$ ounces of cereal?
4. What is the probability that a randomly selected bottle of cereal contains between 23.9 and 24.1 ounces of cereal?
5. ACT mathematics score for a particular year are normally distributed with a mean of $27$ and a standard deviation of $2$ points.
6. What is the probability that a randomly selected score is greater than $29$ points?
7. What percentage of students scores are between $31$ and $23$?
8. A student who scores a $31$ is in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ percentile.
9. Mr. Barnett’s test is normally distributed with a mean of $65$ and a standard deviation of $5$ points.
10. What is the probability that a randomly selected score is greater than $75$ points?
11. What percentage of students scores are between $60$ and $70$?
12. A student who scores a $80$ is in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ percentile.