NAME _____ DATE _____

Practice

Student Edition
Pages 392–398

Integration: Statistics
The Normal Distribution

The weights of eggs produced on a farm are normally distributed with a mean of 1.4 ounces and a standard deviation of 0.4 ounces.

1. What percent of the eggs weigh at least 1 ounce?

2. How many of 1200 eggs are within 2 standard deviations of the mean?

3. To be graded extra large, an egg must weigh at least 2.2 ounces. What is the probability that an egg from this farm will be graded extra large?

A bottle of fruit punch must contain at least 16 fluid ounces. The machine that fills the bottles is set so that the mean volume is 16.4 fluid ounces. The volumes in the bottles are normally distributed.

4. What percent of the bottles are underfilled if the standard deviation is 0.2 fluid ounces?

5. What percent of the bottles are underfilled if the standard deviation is 0.4 fluid ounces?

6. If the standard deviation is 0.2 fluid ounces, find the mean volume that will ensure only 0.5% of the bottles will be underfilled.

A battery has an average life span of 50 hours, with a standard deviation of 3 hours. The life span of the batteries is normally distributed.

7. What percent of the batteries last at least 44 hours?

8. How many of 1500 batteries are within 1 standard deviation of the mean?

9. What percent of the batteries will last at least 53 hours?