14-4

Practice

The Normal Distribution

A set of 1000 values has a normal distribution. The mean of the data is 120, and the standard deviation is 20.

1. How many values are within one standard deviation of the mean?

2. What percent of the data is between 110 and 130?

3. What percent of the data is between 90 and 110?

4. Find the interval about the mean that includes 90% of the data.

5. Find the interval about the mean that includes 77% of the data.

6. Find the limit below which 90% of the data lie.

7. ***Dog Breeding*** The weights of full-grown German shepherds at the City View Kennels are normally distributed. The mean weight is 86 pounds, and the standard deviation is 3 pounds. Skipper, a full-grown German shepard, weighs 79 pounds.

a. What percent of the full-grown German shepherds at City View Kennels weigh more than Skipper?

b. What percent of the full-grown German shepherds at City View Kennels weigh less than Skipper?