

LESSON
11-3

Using Statistical Measures to Compare Populations

Reteach

The Thompson family of 5 has a mean weight of 150 pounds. The Wilson family of 5 has a mean weight of 154 pounds. Based on that information, you might think that the Thompson family members and the Wilson family members were about the same weight. The actual values are shown in the tables below.

Thompson Family
55, 95, 154, 196, 250

Wilson Family
132, 153, 155, 161, 169

By comparing the means to a measure of variability we can get a better sense of how the two families differ.

The Thompson family's mean absolute deviation is 60. The Wilson family's mean absolute deviation is 9.2.

The difference of the two means is 4. This is 0.07 times the mean absolute deviation for the Thompson family, but 0.4 times the mean absolute deviation for the Wilson family.

The tables show the number of pets owned by 10 students in a rural town and 10 students in a city.

Rural Town
3, 16, 3, 6, 4, 5, 0, 2, 12, 8

City
2, 0, 1, 2, 4, 0, 1, 0, 0, 1

1. What is the difference of the means as a multiple of each range?

A survey of 10 random people in one town asked how many phone calls they received in one day. The results were 1, 5, 3, 2, 4, 0, 3, 6, 8 and 2. The mean was 3.4.

Taking 3 more surveys of 10 random people added more data. The means of the new surveys were 1.2, 2.8, and 2.2. Based on the new data, Ann's assumption that 3.4 calls was average seems to be incorrect.

2. Raul surveyed 4 groups of 10 random people in a second town to ask how many phone calls they receive. The means of the 4 groups were 3.2, 1.4, 1.2, and 2.1. What can you say about the number of phone calls received in the towns surveyed by Ann and Raul?
