

Methods for Describing Sets of Data

2.5 Measures of Variability

1. Which do you think has more variation: the SAT scores of students entering Harvard as freshman or the SAT scores of graduating seniors in Miami-Dade County?
2. Which do you think has more variation: the salaries of Fortune 500 company CEO's or the salaries of people living in South Florida?
3. Find the Variance and the Standard Deviation for the following female weights: (Note, use the following to help speed up the calculations: $n = 16$, $\sum X = 2,002$, and $\sum X^2 = 254,442$).

145	110	125	130
134	109	115	130
140	125	115	141
100	95	143	145

4. Find the Standard Deviation for the following fast-food drive thru times : (Note, use the following to help speed up the calculations: $n = 12$, $\sum X = 1981.67$, and $\sum X^2 = 327958.23$).

162.86	160.24	158.56	165.32
159.01	173.25	184.20	174.12
157.41	162.58	163.01	161.11

Answers:

1. The SAT's of graduating seniors since the Harvard students are likely to all be within a certain narrow band of scores defined by some minimum entrance requirement.
2. People living in S. Florida have more variation since they will range from rich to poor while CEO's of the Fortune 500 are all rich.
3. Variance: $S^2 = 262.8$ pounds squared; Standard Deviation: $S = 16.2$ pounds
4. Standard Deviation: $S = 8.02$ seconds