

CENTER AND SPREAD

TEXT: 2.5, 2.6, 2.7

LAST NAME	FIRST NAME	DATE
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1 (3 points). Compute the following statistics for the sample. Check your answers using the technology.

8 14 12 -12 8 -2 4 -16

(a) mean (show algebraic work)

(b) median

(c) mode

2 (4 points). Compute the following statistics for the sample. Check your answers using the technology.

-5 -13 5 -11 -6

(a) mean

(b) variance (show algebraic work, like a formula or a table)

(c) standard deviation

3 (1 point). A sample of five San Francisco residents provides the following data for the amount of time in hours spent on commute weekly:

5 7 11 4 x

Find the missing data value x if the sample mean $\bar{x} = 7.2$

4 (4 points). Given a sample with mean $\bar{x} = -10$ and standard deviation $s = 4$, and assuming that the distribution is approximately normal (symmetric & bell-shaped), find the percentage of the population we expect to have these measurements:

(a) between -14 and -10 ?

(b) below -18 ?

(c) above -22 ?

(d) between -18 and -2 ?

5 (2 points). Given a sample with mean $\bar{x} = -10$ and standard deviation $s = 4$, and **without assuming anything about the shape of the distribution**, describe the percentage of the population we expect to have these measurements:

(a) within 3.5 standard deviations away from the mean?

(b) between -18 and -2 ?