

PSYC 2317: Statistical Methods for Psychology

Tarleton State University

Unit 2 Homework

Spring 2020

1. Calculate the average absolute deviation, variance, and standard deviation for the following set of scores: 2, 13, 4, 10, 6

2. For the following set of score:

2 9 6 8 9 8

- (a) calculate the range and standard deviation
 - (b) Add 2 points to each score and compute the range and standard deviation again. Describe how adding a constant to each score influences measures of variability.
3. For a set of observations with a mean of 60 and a standard deviation of 12:

- (a) find the z-score for each of the following X values

$X = 75$ $X = 48$ $X = 84$

$X = 54$ $X = 78$ $X = 51$

- (b) Find the raw score (X -value) for each of the following z-scores

$z = 1.00$ $z = 0.25$ $z = 1.50$
 $z = -0.50$ $z = -1.25$ $z = -2.50$

4. A set of observations with a mean of 76 and a standard deviation of 12 is transformed into a *standardized distribution* with a mean of 100 and standard deviation of 20. Find the new, standardized score for each of the following values from the original set of observations:

- (a) $X = 61$
- (b) $X = 70$
- (c) $X = 85$
- (d) $X = 94$