PSYC 2317: Statistical Methods for Psychology

1. For a set of observations with a mean of 60 and a standard deviation of 12, find the z-score for each of the following raw scores:

$$\begin{array}{ccc} X = 75 & X = 48 & X = 84 \\ X = 54 & X = 78 & X = 51 \end{array}$$

2. For a set of observations with a mean of 25 and a standard deviation of 8, find the raw score for each of the following z-scores:

$$\begin{array}{ccc} z = 1.00 & z = 0.25 & z = 1.50 \\ z = -0.50 & z = -1.25 & z = -2.50 \end{array}$$

3. 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) $X = 94$

4. A set of observations has a standard deviation of $\sigma = 8$, and a score of $X = 44$ corresponds to a $z = -0.50$. What is the *mean* μ of the set of observations?

5. A set of observations has a mean of $\mu = 45$, and a score of $X = 59$ corresponds to $z = 2.00$. What is the standard deviation σ?