3.4 Descriptive Measures for Populations - Use of Samples

Standardized Variables and z-Scores

Example

Possible observations for the variable $x$:

$$x : -1 \quad 3 \quad 3 \quad 3 \quad 5 \quad 5$$

a. Assuming the data set is population data, compute the mean and SD.

b. Using your answer in part (a), determine the standardized version of $x$.

c. Determine the observed value of $z$ corresponding to an observed value of $x$ of 5.

d. Obtain all possible observations of $z$.

e. Find the mean and SD of $z$ using the population equations.

f. Obtain dotplots of the distributions of $x$ and $z$.

Solution to part f.

Dotplot: $x$, $z$