

Practice Assignment: Transforming Data

- 1) If the objective is to get a more symmetrically-distributed variable, which of the following transformations is most appropriate for a right-skewed dataset?
 - a) Cube each data value.
 - b) Square each data value.
 - c) Square root each data value.
 - d) Subtract 10 from each data value.

- 2) In which of the following situations would squaring each data value be the most appropriate transformation?
 - a) The data are left skewed and have both positive and negative values.
 - b) The data are left skewed and have only positive values.
 - c) The data are right skewed and have both positive and negative values.
 - d) The data are right skewed and have only positive values.

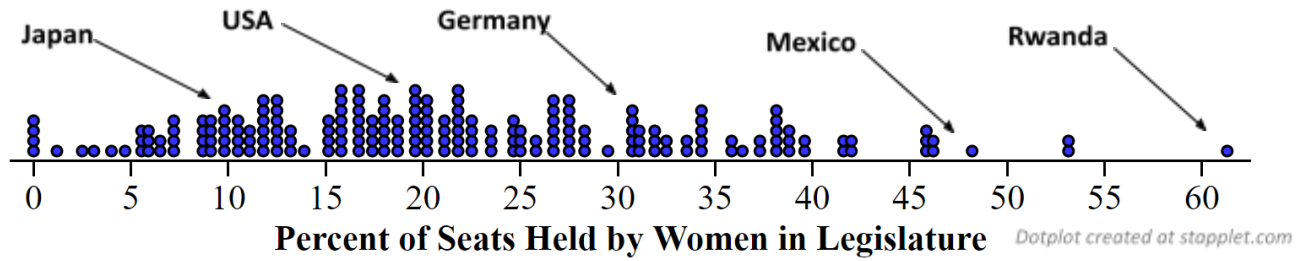
- 3) In which of the following situations would the log transformation be most appropriate?
 - a) The data are left skewed and have both positive and negative values.
 - b) The data are left skewed and have only positive values.
 - c) The data are right skewed and have both positive and negative values.
 - d) The data are right skewed and have only positive values.

- 4) Determine whether this statement is true or false: You perform a base 10 log transformation on a heavily right-skewed distribution. After the transformation, you see there is some moderate right skew remaining. A good next step would be to try a square root transformation instead of the log transformation.

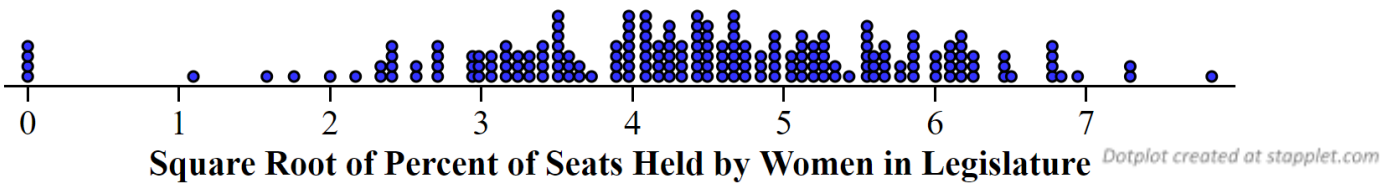
Questions 5–8: These questions reference a dataset¹ from the World Bank, which shows the percentage of seats held by women in national legislatures for various countries around the world (as of 2018).

¹ The World Bank. (1998, August 10). *Proportion of seats held by women in national parliaments (%)*. <https://data.worldbank.org/indicator/SG.GEN.PARL.ZS>

- 5) The following dotplot visualizes the data. Do the positions of any of the labeled countries surprise you? Explain.



- 6) What shape do the data have?
- 7) The following plot shows the square root transformation of these data. Does the transformation make the right skew less severe? Is the right skew eliminated? Explain.



- 8) Would it be wise (or possible) to use a log transformation with these data? Explain.