

Unit 8 Notes - Statistics

The following data is the number of people living in 10 randomly selected households in Oregon:

6 3 5 6 4 2 5 3 3 3

Ex. 1 Find the mean of the dataset.

$$\text{add up} \rightarrow \frac{\sum x}{n} \left\{ \begin{array}{l} \text{data} \\ \text{amount} \end{array} \right.$$

$$\bar{x} = 4$$

Ex. 2 Find the median of the dataset.

$$\begin{array}{ccccccccc} 2 & 3 & 3 & 3 & 3 & 4 & 5 & 5 & 6 & 6 \\ \hline & & \textcircled{3} & & & & & \textcircled{5} & & \\ \end{array}$$

median = 3.5

$$40 \quad 40 \quad 40 \quad 40 \quad 87$$

Ex. 3 Find the mode of the dataset.

most common #

$$\text{mode} = 3$$

Ex. 4 Find the standard deviation of the dataset.

$$s = \frac{\sum (x - \bar{x})^2}{n-1}$$

2	- 4 =	- 2	→	4
3	- 4 =	- 1	→	1
3	- 4 =	- 1	→	1
3	- 4 =	- 1	→	1
3	- 4 =	- 1	→	1
4	- 4 =	0	→	0
5	- 4 =	1	→	1
5	- 4 =	1	→	1
6	- 4 =	2	→	4
6	- 4 =	2	→	4

$\frac{18}{9} = \boxed{2}$

Ex. 5 Find the range of the dataset.

$$\downarrow$$

$$\text{max.} - \text{min.} = 4$$

Ex. 6 Find the upper quartile of the dataset.

5

Ex. 7 Find the lower quartile of the dataset.

3

Ex. 8 Find the interquartile range of the dataset.

Upper Quartile - lower Quartile

$$5 - 3$$

$$\boxed{2}$$

Ex. 9 Are there any outliers?

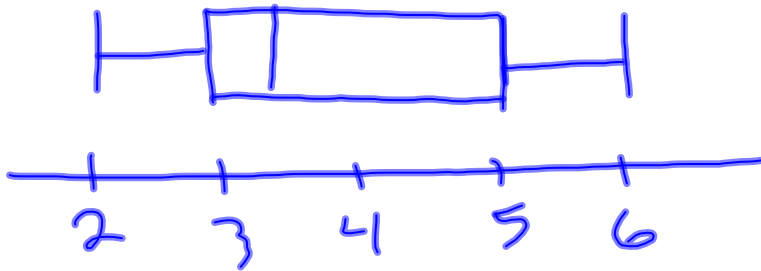
$$\begin{array}{l} \text{L.Q.} - 1.5 \cdot \text{I.R.} \\ 3 - 1.5 \cdot 2 = 0 \end{array}$$

$$\begin{array}{l} \text{U.Q.} + 1.5 \cdot \text{I.R.} \\ 5 + 1.5 \cdot 2 = 8 \end{array}$$

No outliers

Ex. 10 Make a boxplot of the data.

Families in Oregon



Ex. 11 Make a histogram of the data.

bar graph

Families in Oregon

