

DO NOW

The prices of seven race cars sold last week are listed in the table below.

Price per Race Car	Number of Race Cars
\$126,000	1
\$140,000	2
\$180,000	1
\$400,000	2
\$819,000	1

Handwritten calculations:
 126000
 240000
 180000
 800000
 819000
 \hline
 2205000
 \hline
 7
 $\bar{x} = 315000$

What is the mean value of these race cars, in dollars?

What is the median value of these race cars, in dollars?

Median = 180000

State which of these measures of central tendency best represents the value of the seven race cars. Justify your answer.

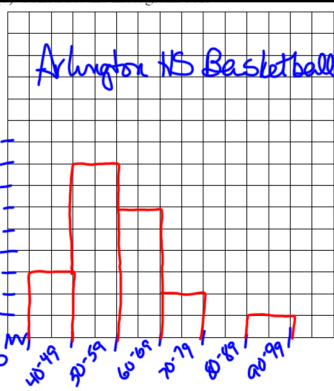
Median because an outlier only affects the mean

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Complete the frequency table below.

Exercise #4

POINTS SCORED	TALLY	FREQUENCY
40 - 49		3
50 - 59		5
60 - 69		5
70 - 79		2
80 - 89		0
90 - 99		1



Exercise #5

- (a) 4
- (b) $42 - 16 = 26$
- (c) No
- (d) Most workers are younger than 22 but a few outliers makes the mean artificially high.

Exercise #6

- (a) 11
- (b) Exact ages displayed
- (c) Finds total easily

Exercise #7

- (a) Mean = 74.6
Median = 74.5
- (b) Biased - Only 1 Team sampled

Exercise #8

- (a) Mean = 81.75
Median = 86
- (b) 45
- (c) Median as the outlier does not affect

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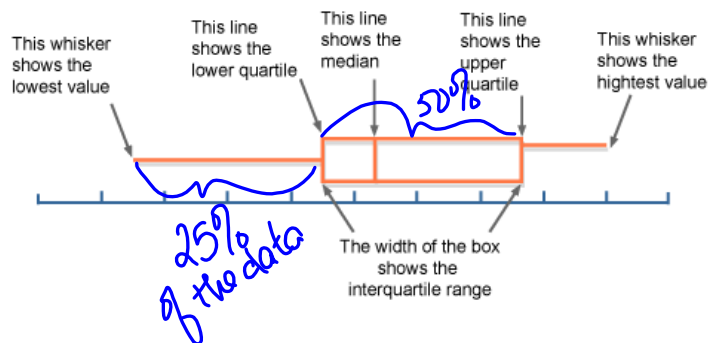
Box Plots & Five Number Summaries

Box Plot (Box & Whiskers Plot)

-divides the data up roughly into quarters (Quartiles)

Five Number Summary

- Minimum Value
- First Quartile - Lower Quartile
- Second Quartile - Median
- Third Quartile - Upper Quartile
- Maximum Value



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Calculator Instructions

- STAT
- 1: Edit...
- Type data into L1
- STAT
- ➡ CALC
- 1: 1-Var Stats

***If you want to clear data out of L1, scroll up and highlight L1, then press**

CLEAR*

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Exercise #1: Shown below are the scores 16 students received on a math quiz

52, 60, 66, 66, 68, 72, 72, 73, 74, 75, 80, 82, 84, 91, 92, 98

(a) What is the median of this data set?

$$\text{Med} = 73.5$$

(b) Find the **range** of the data set (defined as the difference between the largest data value and the smallest data value).

$$\begin{array}{r} \text{MAX} - \text{MIN} \\ 98 - 52 \\ 46 \end{array}$$

(c) What is the median of the lower half of this data set (known as the **first quartile**, Q_1)?

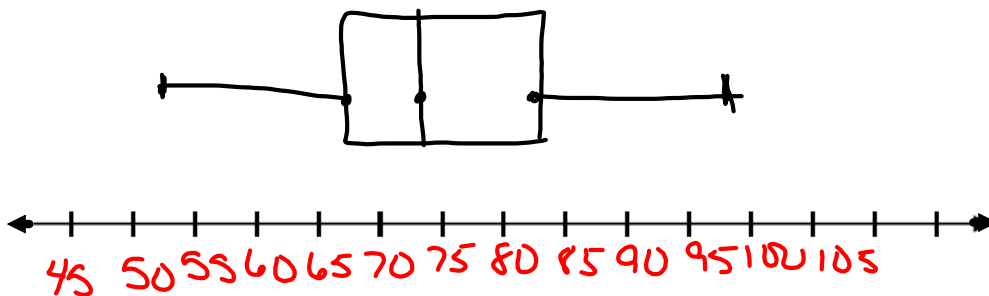
$$Q_1 = 67$$

(d) What is the median of the upper half of this data set (known as the **third quartile**, Q_3)?

$$Q_3 = 83$$

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Exercise #2: Using the same data set construct a box plot on the number line given below.



$$\begin{array}{lll} \text{MIN} = 52 & \text{Med} = 73.5 & \text{MAX} = 98 \\ Q_1 = 67 & Q_3 = 83 & \end{array}$$

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