

Warm up:

Determine if the following samples are biased or unbiased.

1) To find the most popular sports team at the school, Jeff polls the students at his lunch table.

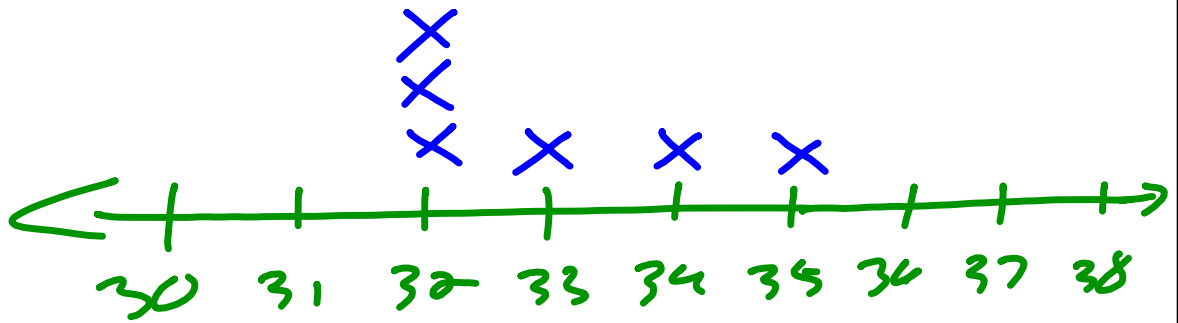
biased

2) In order to determine the theme for the Spring Formal, the student council president sends students a survey to fill out and return to her.

biased

3) To determine the most popular sports team in the school, 10 students are randomly chosen from each grade level.

unbiased



$$\text{mean} = \frac{198}{6} = 33$$

33 - 32 = 1
 33 - 32 = 1
 33 - 32 = 1
 33 - 32 = 1
 33 - 32 = 1
 33 - 32 = 1
 33 - 32 = 1
 33 - 32 = 1

$$\text{MAD} = \frac{6}{6} = 1$$

HW Solutions

$$\begin{array}{r} 23 \\ 22 \\ 26 \end{array} \quad 100$$

$$\frac{71}{3} = 23.\overline{6666} \approx 23.7$$

$$\frac{23.7}{100} = \frac{x}{1000}$$

$$\frac{100x}{100} = \frac{23700}{100} \quad x = 237$$

⑨ m/s

$$\frac{52}{3} = 17.\overline{33}$$

17.33 m/s

QA

$(1, \underline{80})$



*K

*80

80

(17)

$$y = kx$$

$$y = 4x + \underline{9}$$

no

④

$$\frac{261}{58} \times \frac{x}{14}$$

$$\frac{58x}{58} = \frac{3654}{58}$$

$x = 63$

63 cookies

$$\textcircled{1} \quad \frac{\text{difference}}{\text{original}} = \frac{52-48}{48}$$

$$\frac{4}{48} = 0.08\overline{333}$$

$$\textcircled{8.33\%}$$

(3)

↑
100%
↓

$$100\% + 350\% = 450\%$$

$$\frac{4.5x}{4.5} = \frac{27}{4.5}$$

$$x = 6$$

\$6

④

0.68(13.79)

\$9.38

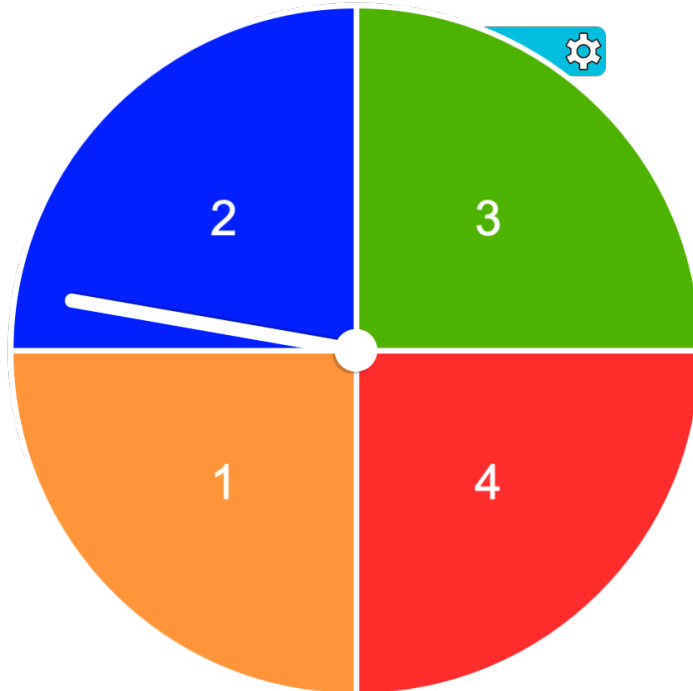
32% ↓
100% - 32%
68%

Q 3.5% ↓

$$100 - 3.5 = \underline{96.5\%}$$

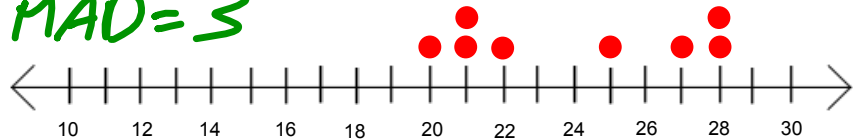
$$\frac{0.965x}{0.965} = \frac{125059}{0.965}$$

$$x = 129595 \text{ people}$$

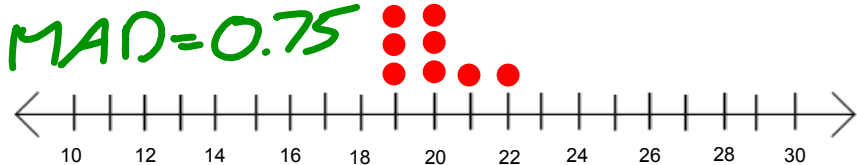


The following dot plots show points scores by the top players on each of the school basketball teams. Use the mean and MAD to compare the data.

mean = $\frac{192}{8} = \text{Sarah } 24$
 MAD = 3



mean = 20 James
 MAD = 0.75



MAD

$$\begin{array}{r} 24 - 20 = 4 \\ 24 - 21 = 3 \\ 24 - 21 = 3 \\ 24 - 22 = 2 \\ 25 - 24 = 1 \\ 27 - 24 = 3 \\ 28 - 24 = 4 \\ 28 - 24 = 4 \\ \hline 24 \\ 8 = 3 \end{array}$$

Below are the points scored by two football teams in the first 5 games of the season. Use the measures of center to compare the two sets of data.

East High School: 23, 25, 21, 22, 28

mean = 23.8
median = 23
no mode

West High School: 29, 29, 27, 0, 28

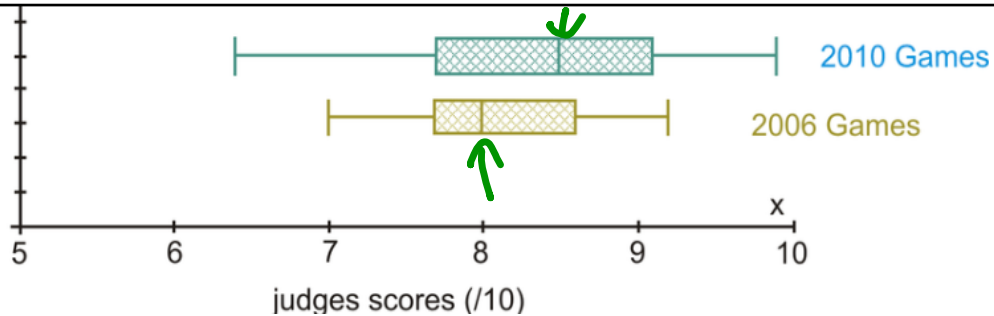
mean = 22.6
median = 28
mode = 29

Which measure of center best represents the data in each set in the previous problem?

Why?

East \rightarrow mean
no outlier

West \rightarrow median
there is an outlier



The box-and-whisker plot shows scores given by judges in the doubles figure skating competition for 2 Winter Olympics. On average, during which Olympic Games did figure skating pairs receive lower scores? During which Olympic games were the scores more consistent?

lower → 2006 the median is lower
more consistent → 2006 smaller range

You surveyed 40 students at your school about their favorite sport to watch on TV and got the following results. If there are 1430 students in your school, how many would you expect to prefer watching football?

Football	Basketball	Baseball	Golf
17	10	4	9

total
40

~~$$\frac{17}{40} = \frac{x}{1430}$$~~

$$\frac{40x}{40} = \frac{24310}{40}$$

$$x = 607.75$$

608 students

You conducted 2 more surveys and got the following results. Based on these results, how many students would you expect to prefer football.

1430 students in the school
 $\frac{18}{40} = \frac{x}{1430}$ 644 students

Football	Basketball	Baseball	Golf
17	10	4	9
16	6	10	8
21	8	1	10

/40
/40
/40

mean = 18

