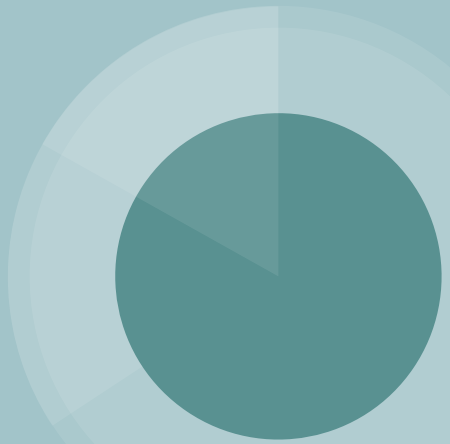
Mode, Median, and Range



Riddle

I make two people out of one. What am I?

Review: Statistical Question

Identifying a statistical question:

- A. What is my favorite sports team?
- B. What sports team are favored amongst the Swaggalicious Unicorn Burritos?
- C. What sports team are favored amongst HTMCV?

Create your own statistical question

- Must be appropriate
- Must have variability
- Must have a sample or population

Flashing Totino Pizza Rolls Statistical Question Examples

- d&d: how many sports do students play at HTMCV?
- C & S: How many people play instruments at HTMCV?
- h&g: how many pets does the whole 6th grade have?
- k&m: how far do students live from htmcv?
- c&o: what is the grades favorite sports?
- n&j: what are the favorite sports teams of 6th graders?
- b&s: what is the htmcv's fave ice cream?
- n&e: amongst all 6th students at htmcv what is their fave food?
- m&a: what is everyone's fave tv show?
- a&ej: how long do 6th graders play video games?
- g&c&r: what is htmcv's fave food?
- r&o: whats htmcvs fave sports?
- j&ac: what is htmcvs fave basketball player in the nba

Swaggalicious Unicorn Burritos Statistical Question Examples

- a&l: how many people go to the store each week?
- a&k: how many people bought c&c ice cream this week?
- s&c: how many people like ice cream in htmcv and which flavor?
- a&a: how many 6th graders
- m&d: how many dogs are in my house?
- i&n&m: how many people in htmcv community are 10,11,12?
- b&j: how many htmcv students went to vans this week to buy shoes?
- s&k: how many go to innout per day?
- m&m: how many htmcv students have broken a bone
- j&g: how many kids in hth play soccer
- k&i: whats your fave disney character
- j&mw: how many people like animals at htmcv?
- x&s: what is the subs type of fave foods?
- alec&anthony: what is the average grade among 6th graders?
    - Average age among grades?

Review: Mean

What is the mean of 6, 11, 7, 5, 8, 9?

Put the following numbers in order

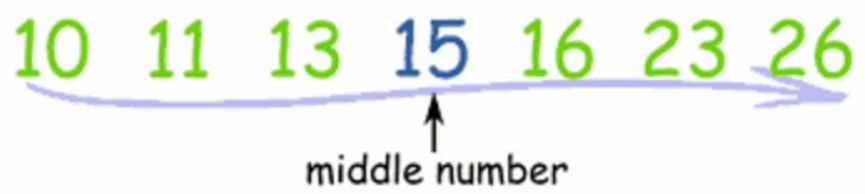
7, 16, 9, 0, 5

What order did you put them in? Why?

Now, what number is in the middle?

Median

The middle number (in a sorted list of numbers).



To find the Median, place the numbers you are given in value order and find the middle number.

Find the median

- 6, 15, 0, 2, 3
- 4, 2, 0, -1, -2

Challenge:

- -4, 9, ½, 5, 6.3, -3.5, 2
- 16, -2.3, 3.2, 5.6, -9.9

What do you notice here?

2, 2, 3, 3, 3, 3, 6, 8, 9

Mode

Mode is the number most occurring in a data set

Find the median and mode in the following data

4, 9, 4, 12, 14, 8, 4, 8, 11, 16, 8

I have 2 modes and 2 medians….

What do I do?!

Bimodal

15, 10, 12, 15, 13, 17, 18, 10

What is the mode(s) here? Why?

Bimodal

Bimodal: there are two modes, meaning two numbers appear equally the most amount of times

Two medians become one

1, 3, 5, 6, 8, 9, 12, 14

Here there are two medians, so:

1. Add the values up
2. Divide by two
3. Solve

But, WHY?!?!

2 medians become 1

We are looking for the MIDDLE or the central point of our data and 2 points would not be an exact “middle point”

Median and Mode Workouts

1) 2 , 3 , 18 , 11 , 3 , 20

2) 9 , 13 , 9 , 6 , 11, 6

3) 18 , 13 , 18 , 10 , 19 , 17 , 11 , 10

4) 47 , 53 , 50 , 45 , 42 , 55 , 44 , 55 , 47

5) 23 , 27 , 32 , 31 , 36 , 30 , 27 , 26

6) 24 , 32 , 20 , 21 , 34 , 19 , 34 , 37 , 18 , 35 , 34 , 28

Riddle

No matter how little or how much you use me, you change me every month. What am I?

What do you notice about these data sets?

1) 16 , 21 , 28 , 89 , 54 , 24 , 44

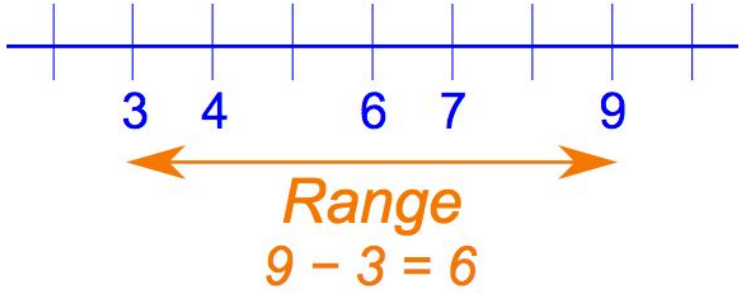
2) 71 , 92 , 6 , 8 , 89

3) 11 , 59 , 81 , 9 , 7

Range

The difference between the lowest and highest values.

In {4, 6, 9, 3, 7} the lowest value is 3, and the highest is 9, so the range is 9 − 3 = 6.



Range Vocab continued

Minimum: the lowest point in a data set

Maximum: the highest point in a data set

Range Workouts

1) 83 , 87 , 94 , 86 , 6 , 32 , 11 , 32

2) 1 , 76 , 37 , 54 , 1 , 12 , 85

3) 92 , 89 , 9 , 2 , 84 , 30

4) 86 , 36 , 7 , 78 , 24 , 57 , 41 , 40 , 11

How tall are you?

There are five people in a room. Three of their heights are 140 cm, 150 cm, and 175 cm. The other two heights are unknown. The heights have the same mean, median, and mode. Find the heights of the two missing people.