

# STATISTICS



## MEAN

MEAN IS THE AVERAGE

- ▶ Add up all of the values to find the total.
- ▶ Divide the total by the number of values you added together.

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

$2+2+3+5+5+7+8 = 32$   
 There are **7** Values      Divide the total by **7**  
 $32 \div 7 = 4.57$

## MEDIAN

MEDIAN IS THE MIDDLE VALUE

- ▶ Put all of the values into increasing / decreasing order.
- ▶ If there are two values in the middle, find the mean of these two.

Where

$$\text{Median} = L + \frac{\frac{n}{2} - CF}{f} \times i$$

- ▶ 'L' is the lower limit of the median class
- ▶ 'n' is the sample size
- ▶ 'CF' is the cumulative frequency preceding the median class
- ▶ 'f' is the frequency of the median class
- ▶ 'i' is the median class interval

## MODE

MODE IS THE MOST FREQUENT VALUE

- ▶ Count how many times each value appears.
- ▶ You can have more than mode.
- ▶ The mode is the value that appears the maximum times.

**2, 2, 3, 5, 5, 7, 8**      THE MODES ARE **2** AND **5**

## RANGE

RANGE IS THE DIFFERENCE BETWEEN THE LOWEST AND HIGHEST VALUE

- ▶ Find the highest and lowest values.
- ▶ Subtract the lowest value from the highest.

**2, 3, 5, 5, 7, 8**  
 LOWEST      HIGHEST       $8 - 2 = 6$   
 THE RANGE IS '6'