Mean, Median, Mode & Range

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Vocabulary Review

- **Sum** – the answer to an addition problem.
- **Addend** – the numbers you added together to get the sum.

$$6 + 9 = 15$$

Definition
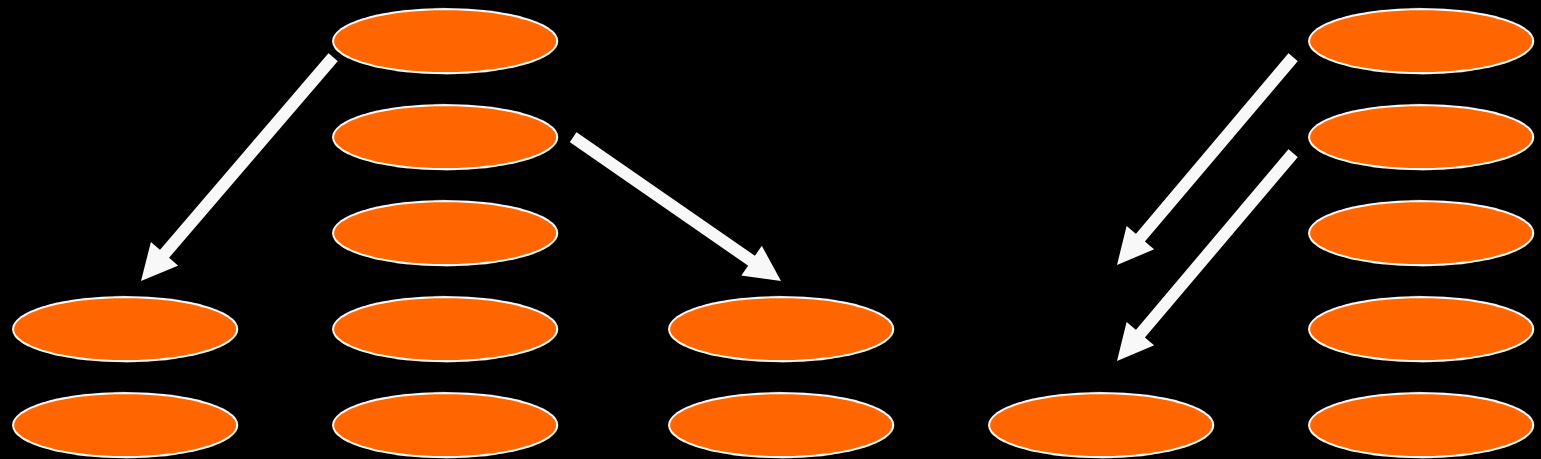
Mean

Means

Average

Definition

- Mean – the average of a group of numbers.

$$2, 5, 2, 1, 5$$

Mean = 3

Mean is found by evening out the numbers

2, 5, 2, 1, 5

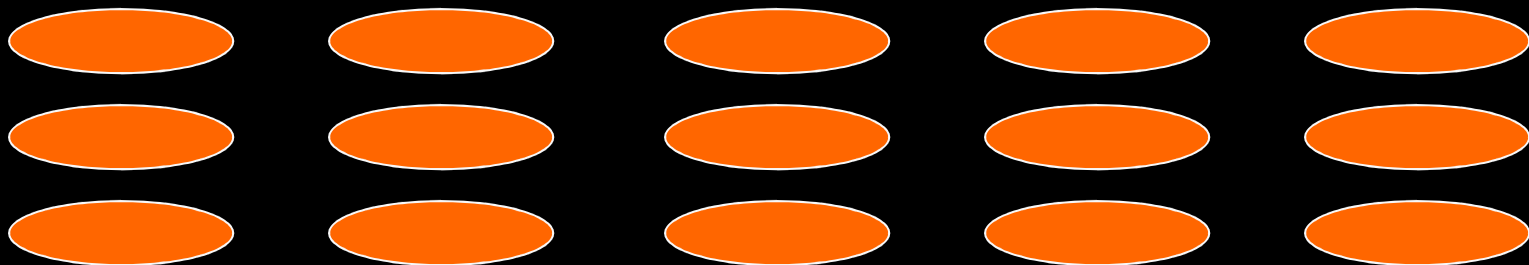# Mean is found by evening out the numbers

2, 5, 2, 1, 5

Mean is found by evening out the numbers

$$2, 5, 2, 1, 5$$

mean = 3

How to Find the Mean of a Group of Numbers

- Step 1 – Add all the numbers.

$$8, 10, 12, 18, 22, 26$$

$$8+10+12+18+22+26 = 96$$

How to Find the Mean of a Group of Numbers

- Step 2 – Divide the sum by the number of addends.

$$8, 10, 12, 18, 22, 26$$

$$8+10+12+18+22+26 = 96$$

How many addends are there?

How to Find the Mean of a Group of Numbers

- Step 2 – Divide the sum by the number of addends.

$$
\begin{array}{r}
16 \\
6\overline{)96} \\
\end{array}
$$

\# of addends ⟶ 6)96 ⟵ sum

$$
\begin{array}{r}
16 \\
6{\overline{)96}} \\
-\ 6\downarrow \\
\hline
36 \\
-\ 36 \\
\hline
\end{array}
$$

How to Find the Mean of a Group of Numbers

The mean or average of these numbers is 16.

8, 10, 12, 18, 22, 26

What is the mean of these numbers?

7, 10, 16

11

What is the mean of these numbers?

2, 9, 14, 27

13

What is the mean of these numbers?

1, 2, 7, 11, 19

8

What is the mean of these numbers?

26, 33, 41, 52

38

Definition

Median
is in the
Middle

Definition

- Median – the middle number in a set of ordered numbers.

$$1, 3, \boxed{7}, 10, 13$$

Median = 7

How to Find the Median in a Group of Numbers

- Step 1 – Arrange the numbers in order from least to greatest.

21, 18, 24, 19, 27

18, 19, 21, 24, 27

How to Find the Median in a Group of Numbers

- Step 2 – Find the middle number.

21, 18, 24, 19, 27

18, 19, 21, 24, 27

How to Find the Median in a Group of Numbers

- Step 2 – Find the middle number.

$$18, 19, \textcircled{21}, 24, 27$$

This is your median number.

How to Find the Median in a Group of Numbers

- Step 3 – If there are two middle numbers, find the mean of these two numbers.

$$18, 19, 21, 25, 27, 28$$

How to Find the Median in a Group of Numbers

- Step 3 – If there are two middle numbers, find the mean of these two numbers.

$$\text{㉑} + \text{㉕} = 46$$

$$2\overline{)46} \quad \begin{array}{c} 23 \end{array} \leftarrow \text{median}$$

What is the median of these numbers?

16, 10, 7

7, (10,) 16

10

What is the median of these numbers?

29, 8, 4, 11, 19

4, 8, 11, 19, 29

11

What is the median of these numbers?

$$31, 7, 2, 12, 14, 19$$

$$2, 7, \boxed{12,} \boxed{14,} 19, 31$$

$$12 + 14 = 26 \qquad 2\overline{)26} = 13$$

What is the median of these numbers?

53, 5, 81, 67, 25, 78

5, 25, 53, 67, 78, 81

$$53 + 67 = 120 \qquad 2\overline{)120}^{\,60}$$

Definition

Mode
is the most
Popular

Definition

- **A la mode** – the most popular or that which is in fashion.
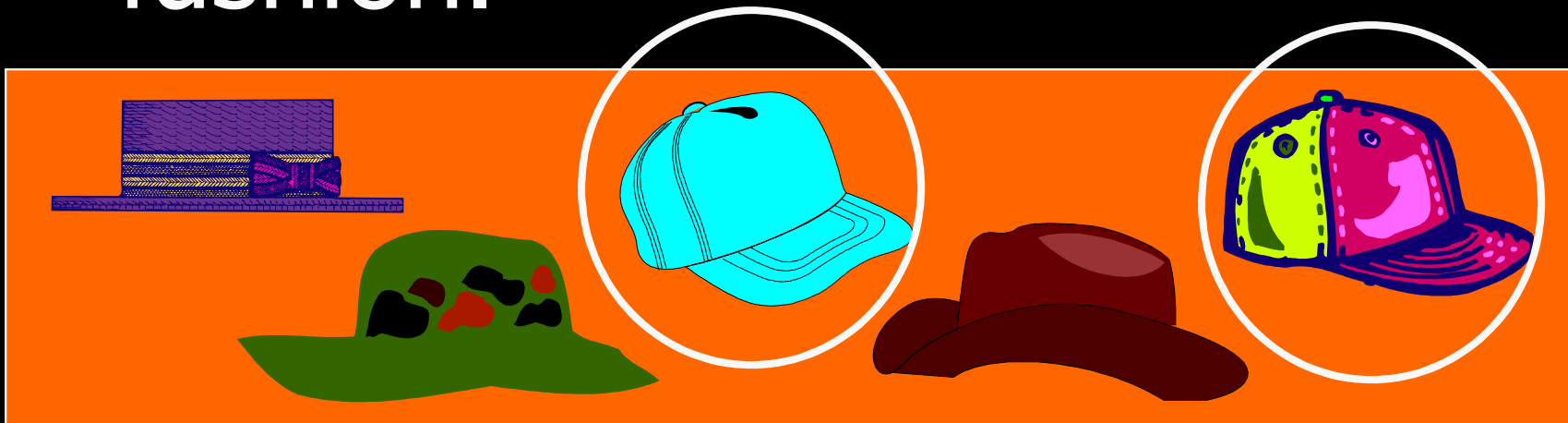
Baseball caps are a la mode today.

Definition

- Mode – the number that appears most frequently in a set of numbers.

$$1, 1, 3, 7, 10, 13$$

Mode = 1

How to Find the Mode in a Group of Numbers

- Step 1 – Arrange the numbers in order from least to greatest.

$$21, 18, 24, 19, 18$$

$$18, 18, 19, 21, 24$$

How to Find the Mode in a Group of Numbers

- Step 2 – Find the number that is repeated the most.

21, 18, 24, 19, 18

(18), (18), 19, 21, 24

Which number is the mode?

29, 8, 4, 8, 19

4, 8, 8, 19, 29

8

Which number is the mode?

1, 2, 2, 9, 9, 4, 9, 10

1, 2, 2, 4, 9, 9, 9, 10

9

Which number is the mode?

22, 21, 27, 31, 21, 32

21, 21, 22, 27, 31, 32

21

Definition

Range
is the distance
Between

Definition

- **Range** – the difference between the greatest and the least value in a set of numbers.

$$\boxed{1}, 1, 3, 7, 10, \boxed{13}$$

Range = 12

How to Find the Range in a Group of Numbers

- Step 1 – Arrange the numbers in order from least to greatest.

21, 18, 24, 19, 27

18, 19, 21, 24, 27

How to Find the Range in a Group of Numbers

- Step 2 – Find the lowest and highest numbers.

$$21, 18, 24, 19, 27$$

$$18, 19, 21, 24, 27$$

How to Find the Range in a Group of Numbers

- Step 3 – Find the difference between these 2 numbers.

$$18, 19, 21, 24, 27$$

$$27 - 18 = 9$$

The range is 9

What is the range?

29, 8, 4, 8, 19

4, 8, 8, 19, 29

29 – 4 = 25

What is the range?

22, 21, 27, 31, 21, 32

21, 21, 22, 27, 31, 32

$$32 - 21 = 11$$

What is the range?

31, 8, 3, 11, 19

(3,) 8, 11, 19, (31)

$31 - 3 = 28$

What is the range?

23, 7, 9, 41, 19

7, 9, 23, 19, 41

41 – 7 = 34

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