

Introduction - Explanation of Definitions

The **MODE** of a set of scores is the **MOST** occurring score –
(4, 5, 7, 10, 10, 12) MODE = 10

The **MEDIAN** of a set of scores is the **MIDDLE** score once the data is in order
(3, 4, 6, 8, 10, 11, 20) MEDIAN = 8
(3, 4, 6, 8, 10, 11, 20, 22) If there are two scores in the middle 8 and 10
It is just the middle of these two numbers ie 9

The **MEAN** of a set of scores is the **AVERAGE** score.
You add all the data and divide by the number of scores
(3, 4, 6, 8, 10, 11, 20) Mean = $\frac{3+4+6+8+10+11+20}{7} = 8.857$

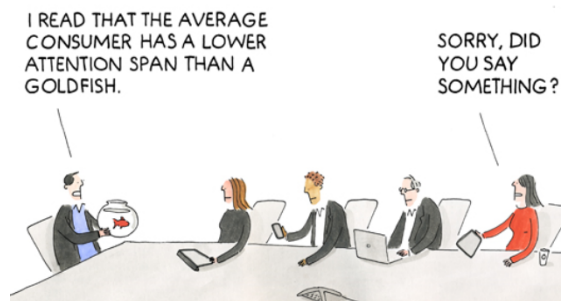
The **RANGE** is the difference between the highest and the lowest score.
(3, 4, 6, 8, 10, 11, 20) Range = $20 - 3 = 17$

Initial Task

1. Write 2 sets of data that have a range of 6
A set of score with a **RANGE** of 10 might be
{ 3, 4, 7, 10, 13}
2. Write 2 sets of data that have a mode of 8
A set of score with a **MODE** of 10 might be
{ 3, 10, 10, 10, 13}
3. Write 2 sets of data that have a median of 7.5
A set of score with a **MEDIAN** of 10 might be
{ 3, 4, 10, 10, 43}
4. Write two set of data that have a mean of 20
A set of score with a **MEAN** of 10 might be
{ 8, 9, 10, 10, 12}
since $(8 + 9 + 10 + 10 + 12) \text{ divided by } 5 = 10$

Enabling Prompts

1. A set of 5 scores have a median of 5 and a mode of 7. What might the scores be?
2. A set of 5 scores have a median of 5, a mode of 7 and a range of 6. What might the scores be?
3. A set of 6 scores have a median of 10 and a mode of 6. What might the scores be?



Main Task

1. A set of 5 scores have a mean of 5 and a mode of 7. What might the scores be?
2. A set of 5 scores have a mode of 10. If there are no negative scores, what is the lowest mean the set could have?
3. A set of 7 scores have a mode of 10. If there are no negative scores, what is the lowest mean the set could have?

Extending

1. A set of 6 scores have a mean, mode, median and range of 20, 11, 10 and 12.
(These numbers could relate to any measure)
What might the data set be?

Why did you pick the numbers you choose for the mean, mode, median and range

Consolidating Task

1. A family of 4 have a mean age of 20. What might their ages be?
2. A set of 6 scores have a mean of 10, a mode of 8 and a range of 12. What might the scores be?
3. A set of three scores has a mode of 10 and a median of 9, explain why this is impossible?
4. A set of 8 scores have a mode of 9, a mean of 10 and a median of 8. Is this possible?
Explain, why / why not