Starter:

1. Find the mean, median, mode & range of   4, 5, 1, 5, 10

2. Find the mean, median, mode & range of   2, 4, 8, 9, 1, 7

Skills:

1. The amount of money (in £) saved by Alan for each of 8 months was as follows:
    43 30 75 54 62 46 24 82

(a) Find the range of the amounts saved.

(b) Find the mean of the amounts saved.

(c) If Alan had saved £15 less every month, what would be
    (i) the mean of the amounts saved,

    (ii) the range of the amounts saved.

2. Farah is 26 years older than her son Amir. Their mean age is 30 years. How old is Farah?

3. The mean of 5 numbers in a list is 24. When two extra numbers are added to the list, the mean increases by four. What does this tell you about the values of the two extra numbers?

Top Tips!

- This rhyme can help to remember averages and range:
  "Hey diddle diddle, the **median** is the middle. You add and divide for the **mean**. The **mode** is the one that appears the most and the **range** is the difference between"
- Remember that you **must put the numbers in order** when finding the **median**
- There can be "no mode"
- Don't forget to press equals on your calculator after adding when finding the mean
- There can be two numbers in the middle when finding the median e.g. find the median of 1, 7, 2, 3

  Put the numbers in order 1, 2, 3, 7
  Median is the number halfway between 2 and 3:
  Median = (2+3) ÷ 2 = 5 ÷ 2 = 2.5

Examination Question:
2014 January Unitised U3 Foundation Q15

1. Five single digit numbers need to be written on the cards above. The median, mode, mean and range of the numbers must all be 5. Write a possible set of single digit numbers on the cards, in ascending order.[4]

2. Seven **single digit numbers** have a median of 6 and a range of 8. The mode of the seven numbers is 3. Find the seven numbers. Write your single digit numbers in order in the boxes. [4]

3. Find the mode of the following set of numbers, and show that the range, median and mean of the numbers are all the same as the mode
    7   11   6   4   7

Range .... Mode ....   Median .... Mean ....

Each of the five numbers is increased by 1.
Circle either TRUE or FALSE for each of the following statements

The range is increased by 1	True	False
The mode is increased by 1	True	False
The median is increased by 1	True	False
The mean is increased by 1	True	False

Assessment for Learning

Starter:

1. Find the mean, median, mode & range of
   1,4,5,5,10
   Mean = 5
   Median = 5
   Mode = 5
   Range = 10 – 1 = 9
2. Find the mean, median, mode & range of
   1,2,4,7,8,9
   Mean = 5.17
   Median = 5.5
   Mode = no mode
   Range = 9 – 1 = 8

Top Tips!

- This rhyme can help to remember averages and range: "Hey diddle diddle, the **median** is the middle. You add and divide for the **mean**. The **mode** is the one that appears the most and the **range** is the difference between"
- Remember that you **must put the numbers in order** when finding the **median.**
- There can be "no mode"
- Don't forget to press equals on your calculator after adding when finding the mean
- There can be two numbers in the middle when finding the median
  E.g. find the median of 1, 7, 2, 3

  Put the numbers in order 1, ②, ③, 7
  Median is the number halfway between 2 and 3:
  Median = (2+3) ÷ 2 = 5 ÷ 2 = 2.5

Skills:

1. Write down 4 numbers that have a mean of 5 (you cannot use the same number twice).
   The 4 numbers must add up to 20 (4 x 5 = 20)
   Example 1, 2, 3, 14
2. Write down 5 numbers that have:
   A median of 8
   A mean of 7
   A range of 4
   The largest number is 9
   The 3rd number must be 8.
   The numbers must add to 35
   If the largest is 9, the smallest is 5.
   35 – 5 – 8 – 9 = 13
   The 2 other numbers must add to 13 and must fit, so must be 5 and 8.
   5,5,8,8,9

Examination Question:

2014 January Unitised U3 Foundation Q15

Possible answer

1	5	5 (fixed)	6	8

Five single digit numbers need to be written on the cards above. The median, mode, mean and range of the numbers must all be 5. Write a possible set of single digit numbers on the cards, in ascending order. [4]

The 3rd number must be 5.
There must be at least two 5's.
The total must be 25

Assessment for Learning

Video / QR code