

**Basic Averages Questions (More challenging examples)– www.m4ths.com**

(1) From the list of the 7 single digit numbers shown below, place 1 of the numbers in each box below such that the 4 numbers chosen have a mean, median **and** range of 4.

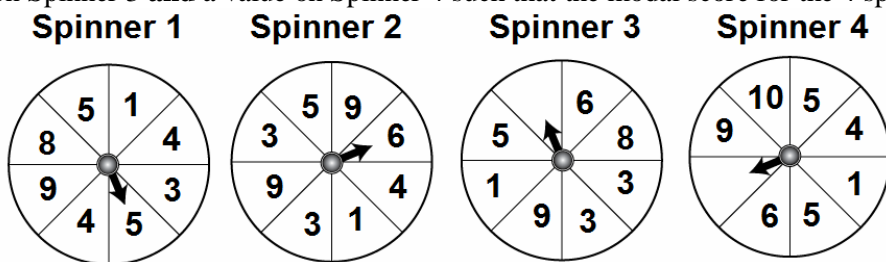
**6 2 4 9 5 1 3**

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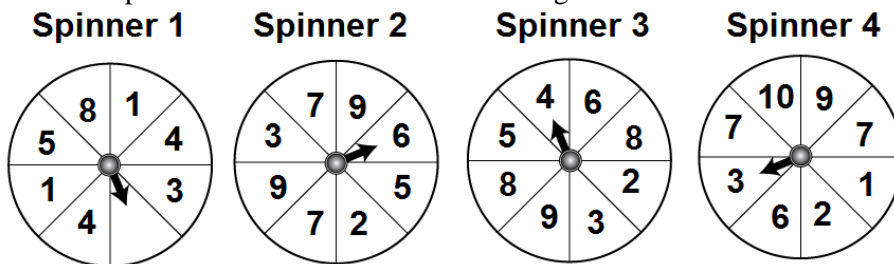
(2) Fred takes 5 maths tests. Each test is scored out of 50 and he scores 34, 23, 29 and 32 respectively in the first 4 tests.

- (a) Find the score he must get in the 5<sup>th</sup> test to have a mean score of 31 for the 5 tests.
- (b) Find the maximum mean score he can have for all 5 tests given his scores in the first 4 tests.
- (c) State the lowest possible value of the range of his scores in the 5 tests given the scores achieved in the first 4 tests.

(3) (a) Kelly is playing a game with the 4 different spinners. She scores 5 on Spinner 1 and 6 on Spinner 2 as shown below. Write a value on Spinner 3 **and** a value on Spinner 4 such that the modal score for the 4 spinners is 2.



(b) Jasmine is playing a similar game with 4 different spinners to those in question 3. Jasmine scores 6 on Spinner 2 and 3 on Spinner 4. Write a value on Spinner 1 such that her mean score is greater than her median score for the 4 spinners.



(4) Given that the range of the data set below is 24 and that  $p > 0$ , find the value of  $p$  :

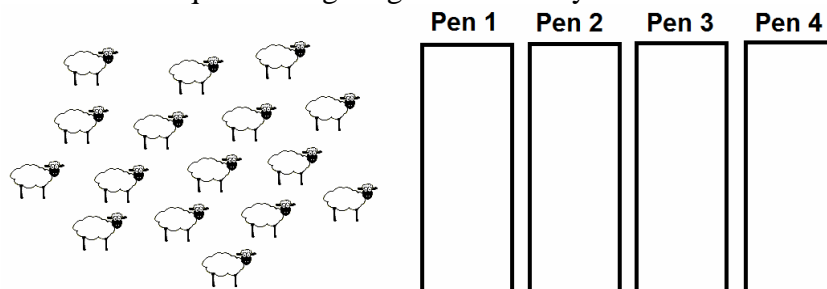
16, 7, 3,  $p$ , 21, 19

(5) Jim, Tim and Kim are all teenage brothers. The median age of the 3 brothers is 14 years old and the mean age of the brothers is 15 years old. Given that Jim is the youngest brother and Kim the oldest, write down the possible ages of Jim and Kim.

(6) Farmer Eric has 4 sheep pens to put all of his sheep in as shown in the diagram below.

(a) Place **all** of the sheep shown in the diagram into the 4 different pens such that Pen 2 and Pen 4 have the modal number of sheep in **and** Pen 1 has less sheep than the mean number of sheep in each pen.

(b) State whether your solution is unique or not giving a reason for your answer.



(7) Given that the mean of the data set below is 5, find the value of  $2x - 1$  :

4, 7, 3, 6,  $x$ , 2