

Maths Challenges Number 1 January 2013

- Use 5 objects, can you arrange into two groups and say what 2 numbers make 5?

Objects arranged into $1 + 4$, $2 + 3$

- Increase number of objects to 10 and complete as above. How many ways can you find?

Objects arranged into $1 + 9$, $2 + 8$, $3 + 7$, $4 + 6$, $5 + 5$

- Without objects, what two numbers add together to make 10? (Increase to 15 or 20 as appropriate to child)

As above – number bonds to 10 or 15 or 20 depending on number

- The sum of 2 numbers is 15. What could the 2 numbers be? How many other answers could there be? (For this, it is essential the children understand that 'sum of' means that numbers have been added together)

All number bonds to 15 should be identified: $1 + 14$, $2 + 13$, $3 + 12$, $4 + 11$, $5 + 10$, $6 + 9$, $7 + 8$

- The sum of 2 odd numbers is odd. True or false – why?

No – the sum of 2 odd numbers is always even...give different examples to prove like $1 + 3 = 4$, $3 + 5 = 8$ etc

- The sum of 3 consecutive numbers is 15. What are the numbers? (For this, it is essential that children understand that 'consecutive' means numbers that follow each other ,e.g. 3,4,5)

$4 + 5 + 6 = 15$

- The sum of 3 consecutive numbers is 45. What are the numbers?

$14 + 15 + 16 = 45$

- Arrange the numbers 3, 6, 8, 2 into two 2 digit numbers so that the sum of their digits is 100/ 118 / 64

$68 + 32 = 100$ / $62 + 38 = 100$, $86 + 32 = 118$ / $82 + 36 = 118$, $26 + 38 = 64$ / $28 + 36 = 64$

- Which 2 numbers when added together make 467 and have a difference of 73?

$197 + 270 = 467$

- Choose four of the digits from 1-9. Each one must be different. Put one digit in each box. This makes two 2-digit numbers reading across and two 2-digit numbers reading down.

Add up all four of the numbers. How many different ways of making 200 can you find?

There are 22 different solutions. Eleven of the solutions are as follows:

19	28	29	35	41	42	43	51	61	62	71
72	63	53	74	95	85	75	76	58	47	38

Eleven more solutions are formed by changing over the two digits in the top right and bottom left boxes.