Worksheet8 Year5 6.7.20

What is a Magic Square?

In a Magic Square, every row, column and diagonal all add up to make the same total.

In a traditional 3 by 3 magic square, the digits 1 to 9 are used to make totals of 15.

2	7	6	15
9	5	1	15
4	3	8	15
15	15	15	15 15

In a magic square, each row, column and diagonal add up to the same total.
Can you fill in the missing numbers in these magic squares?

1) The sum is 34.

7			14
2	13	8	
			5
9	6		

2) The sum is 42.

	18		9
8		15	14
		10	
6		13	

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In a magic square, each row, column and diagonal add up to the same total.
Can you fill in the missing numbers in these magic squares?

1) The sum is 7.5

1		3
4.5		0.5

2) The sum is -3.

-2		
		1
2		

3) The sum is 1.5

		0.7
	0.9	0.2

4) The sum is 300.

	100	
120	20	

Challenge

- Use the digits 1,2,3,4,6,7,8 and 9 to create some magic squares.
- The number 5 goes in the middle and has been placed for you!
- Each row, column and diagonal has to add up to 15.
- **Don't use the example on page 1 though!**

1)

	5	

2)

	5	

Worksheet8 – ANSWERS

1) The sum is 34.

7	12	1	14
2	13	8	11
16	3	10	5
9	6	15	4

2) The sum is 42.

11	18	4	9
8	5	15	14
17	12	10	3
6	7	13	16

1) The sum is 7.5

1	3.5	3
4.5	2.5	0.5
2	1.5	4

2) The sum is -3.

-2	3	-4
-3	-1	1
2	-5	0

3) The sum is 1.5

0.8	0.1	0.6
0.3	0.5	0.7
0.4	0.9	0.2

4) The sum is 300.

40	180	80
140	100	60
120	20	160

Here are the 8 possibilities. In fact, there is really just one possibility – the other ones are reflections or rotations of it!

2 7 6 9 5 1 4 3 8	2 9 4 7 5 3 6 1 8	6 7 2 1 5 9 8 3 4
6 1 8 7 5 3 2 9 4	8 1 6 3 5 7 4 9 2	8 3 4 1 5 9 6 7 2
4 3 8 9 5 1 2 7 6	4 9 2 3 5 7 8 1 6	