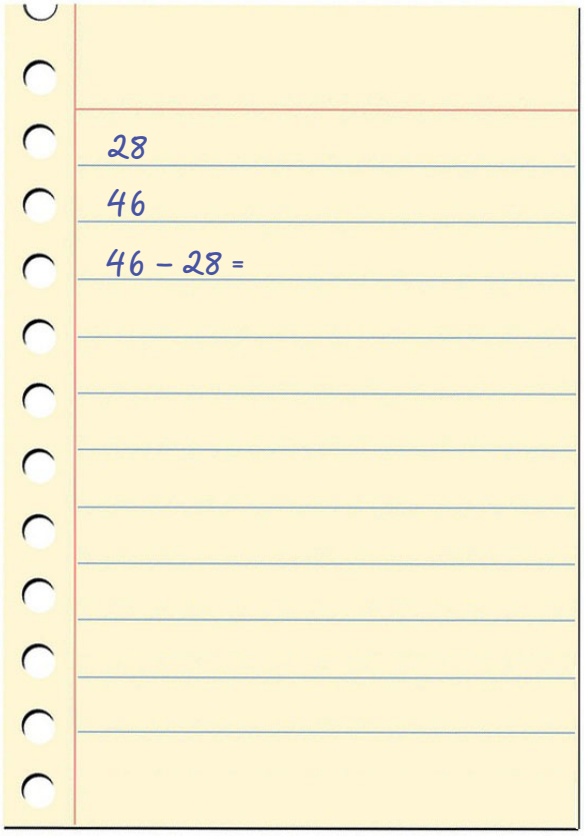
Magic square differences

1. Look at the magic square. All the rows and all the columns and all the diagonals add to the same total (15). Magic squares like this one are really ancient and have lots of magical properties.

2	7	6
9	5	1
4	3	8



2. Choose two opposite corners and create a two-digit number.
3. Choose the other two opposite corners and create a two-digit number.
4. Find the difference between the two numbers and write it down.
5. Add its digits.
6. Repeat this as many times as you can to create different subtractions.

How many subtractions can you create?
Can you show that you have found them all?

7. Take the middle top and the middle bottom numbers and create a two-digit number.
8. Take the middle number in the left column and the middle number in the right column and create a two-digit number.
9. Find the difference and write it down.
10. Add its digits.
11. Repeat this as many times as you can to create different subtractions

Can you demonstrate that you have found them all?

What did you notice about adding the digits of the differences?
Can you get this pattern by choosing other numbers from the square?

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