Problem of the Week: Week 4 (Sum1): Year 7: Algebra

- Substitute numerical values into formulae and expressions, including scientific formulae
- Simplify and manipulate algebraic expressions to maintain equivalence by: collecting like terms and multiplying a single term over a bracket
- Use algebraic methods to solve linear equations in one variable

Flip and Add

Take any 2-digit number

Reverse the digits

Add the two numbers together

e.g. 13 and 31   13+ 31 = 44

      93 and 39   93 + 39 = 132

What do you notice?

Is it always true?

Flip and Take

Take any 2-digit number

Reverse the digits

Subtract the smaller number from the larger number

e.g. 17 and 71   71 – 17 = 54

e.g. 56 and 65   65 – 56 = 9

What do you notice?

Is it always true?

Flip and Take (2)

Take and 3-digit number

Reverse the digits

Subtract the smaller number from the larger number

e.g. 833 and 338   833 – 338 = 495

e.g. 142 and 241   241 – 142 = 99

What do you notice?
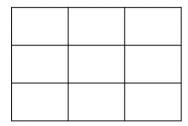
Is it always true?

Magic Squares

8	1	6
3	5	7
4	9	2

This is a magic square
All the rows , columns and two diagonals add up to the same (magic) total.
What is the magic number ?

5a + 2	0	4a + 1
2a	3a + 1	4a + 2
2a + 1	6a + 2	a

This is a magic square
All the rows , columns and two diagonals add up to the same (magic) total.
What is the magic number ?
Give your answer in it's simplest form

If a = 3 , complete the magic square in numbers

If the magic number is 10, what is the value of a ?
Use this value of a to fill in the magic square