**Intro Trick**

Write down a three digit integer, it’s best if the digits are different

Reverse the number and write it underneath. (The middle digit should stay in the middle.)

Subtract the lower from the higher.

Reverse this answer.

Add the last two answers.

Second bit of "magic": the total is... 1089

Think of a number.

Double it.

Add 12.

Halve the answer.

Subtract your original number.

It’s 6!

# Forming and Solving Equations A

### Aim

To understand that using equations can help make it easier to solve problems.

### Activities

Class discussion of previous exercise.

Teacher example of how to solve one quickly.

### Prior Knowledge

Vocabulary: To equate as a verb. Expression vs. Equation.

### Check

On mini whiteboards, give examples of:

* An equation
* An expression
* \*Write a sentence with the verb equate.

### Prior Knowledge

To find the area and perimeter of rectangles

### Check:

Find the area and perimeter of each of these rectangles

3cm

8cm

7cm

4cm

### Prior Knowledge

To know the angle-sum of triangles and quadrilaterals

### Check

What do the angles in a triangle add up to?

What do the angles in a quadrilateral add up to?

### Prior Knowledge:

To form equations

### Check:

Dora buys m packets, each containing q chocolates. She gives t chocolates to her friends and has p left.

Carrie brings x chocolates to school and shares them equally between b teachers. Each person receives h chocolates.

I have p sweets. James has 10 fewer sweets than I do and Lucy has 20 more than I do. Mark knows that he has twice as many sweets as Lucy and four times as many sweets as James.

### Prior Knowledge:

To simplify expressions by collecting like terms

### Check:

Simplify these expressions:

Simplify both sides of this equation:

### Prior Knowledge:

To solve equations

### Check:

Solve the following equations:

### Aims

To apply your equation skills to solve problems involving algebra

To show your method clearly whenever you are solving an equation

### Activities

Example 1

3p – 1

p

The perimeter of this rectangle is 42cm, find the value of p.

Key point: we do not include units in equations (why not?)

Example 2 Find the value of A in this triangle:

A-10

A+50

A

Forming + Solving A Practice