Steps to Success

Lockdown	
Date	
Subject/s	**Maths**
Learning Objective	To solve equations using algebra

		SA	TA
Success Criteria	I know letters represent numbers		
	I can substitute letters for values		
	I can work out what a letter represents by doing the inverse		
Support	Independent Adult Support ( ) Group Work		

Pre-task

Substitute into the following expressions when,

$$w = 10 \qquad x = \frac{1}{4} \qquad y = 2.5$$

- $3y$
- wx
- $12 + 8.8w$
- $x \times (w + 2y)$

If 2x + 9 = 49 What is x?

a + b = 14	What could a and b be?
a + b = 21	What could a and b be?
a – b = 12	a = 13 a = 14 a = 15
a – b = 23	a = 24 a = 25 a = 26
15 + a = b	a = 1 a = 2 a = 3
a – 13 = b	a = 14 a = 15 a = 16
27 – a = b	a = 1 a = 2 a = 3
3a – b = 12	a = 5 a = 6 a = 7
6a + b = 25	a = 1 a = 2 a = 3
2a - b = 10	a = 6 a = 7 a = 8
3a – b = 17	a = 6 a = 7 a = 8

Problem Solving and Reasoning

Use it!

Here are two equations.

$$p = 2a + 5$$

$$c = 10 - p$$

Find the value of c when $a = 10$

Explain it!

$$x = 2c + 6$$

Joe says,

$x = 12$ because c must be equal to 3 because it's the 3rd letter in the alphabet

Is Joe correct?

Explain it!

Derek says,

When $c = 5$ the answer is 31

Is Derek correct?

Use it!

- Hannah is 8 years old
- Jack is 13 years old
- Grandma is $x + 12$ years old.
- The sum of their ages is 100

Form and solve an equation to work out how old Grandma is.

Answers

$c = -15$

No Joe is incorrect. c could have any value.

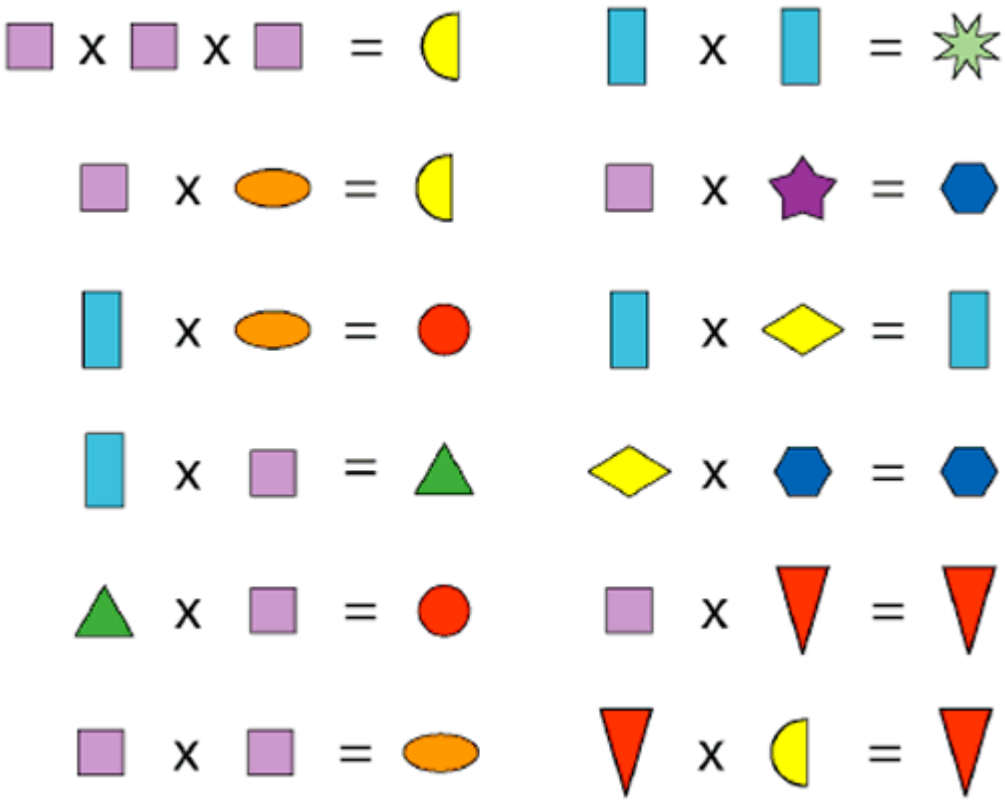
No Derek is incorrect, he has just put the 2 and 5 together to make 25 instead of multiplying them.

Hannah + Jack = 21

100 – 21 = 79 – 12 = 67

Grandma is 67

Further Challenge

The coloured shapes stand for eleven of the numbers from 0 to 12. Each shape is a different number.

Can you work out what they are from the multiplications below?