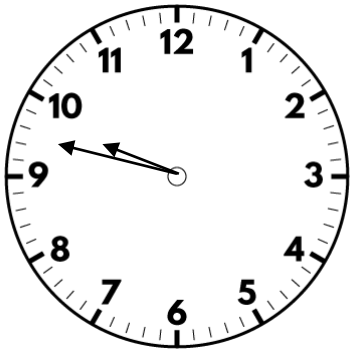
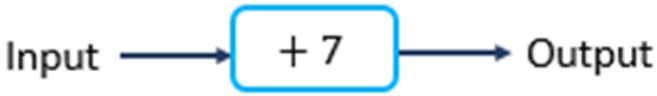
Flashback 4

Year 6 | Week 1 | Day 4



1) Write an expression for the output if x is input to this function machine.



$x + 7$

2) Find 25% of 180

45

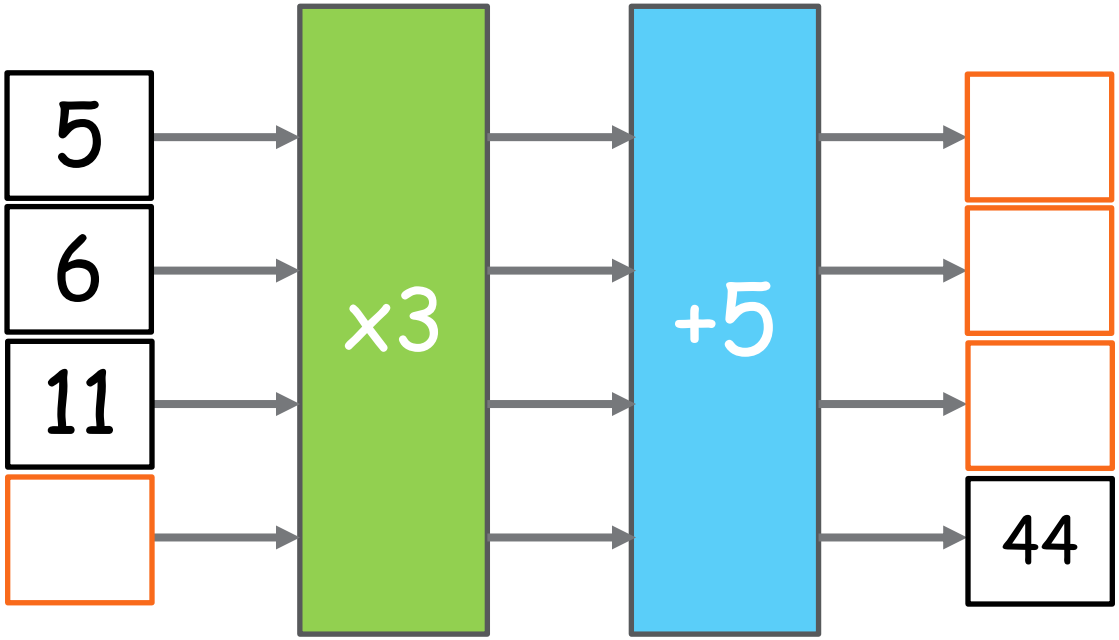
3) Write $\frac{3}{4}$ as a decimal

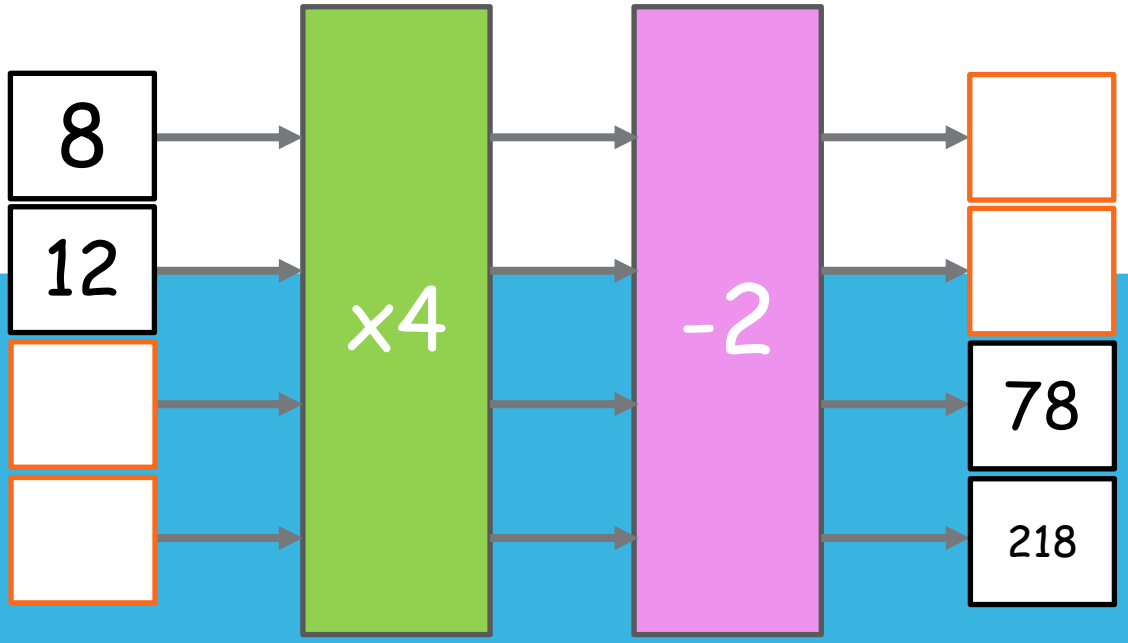
0.75

4) How many sides has a hexagon?

6

RECALL

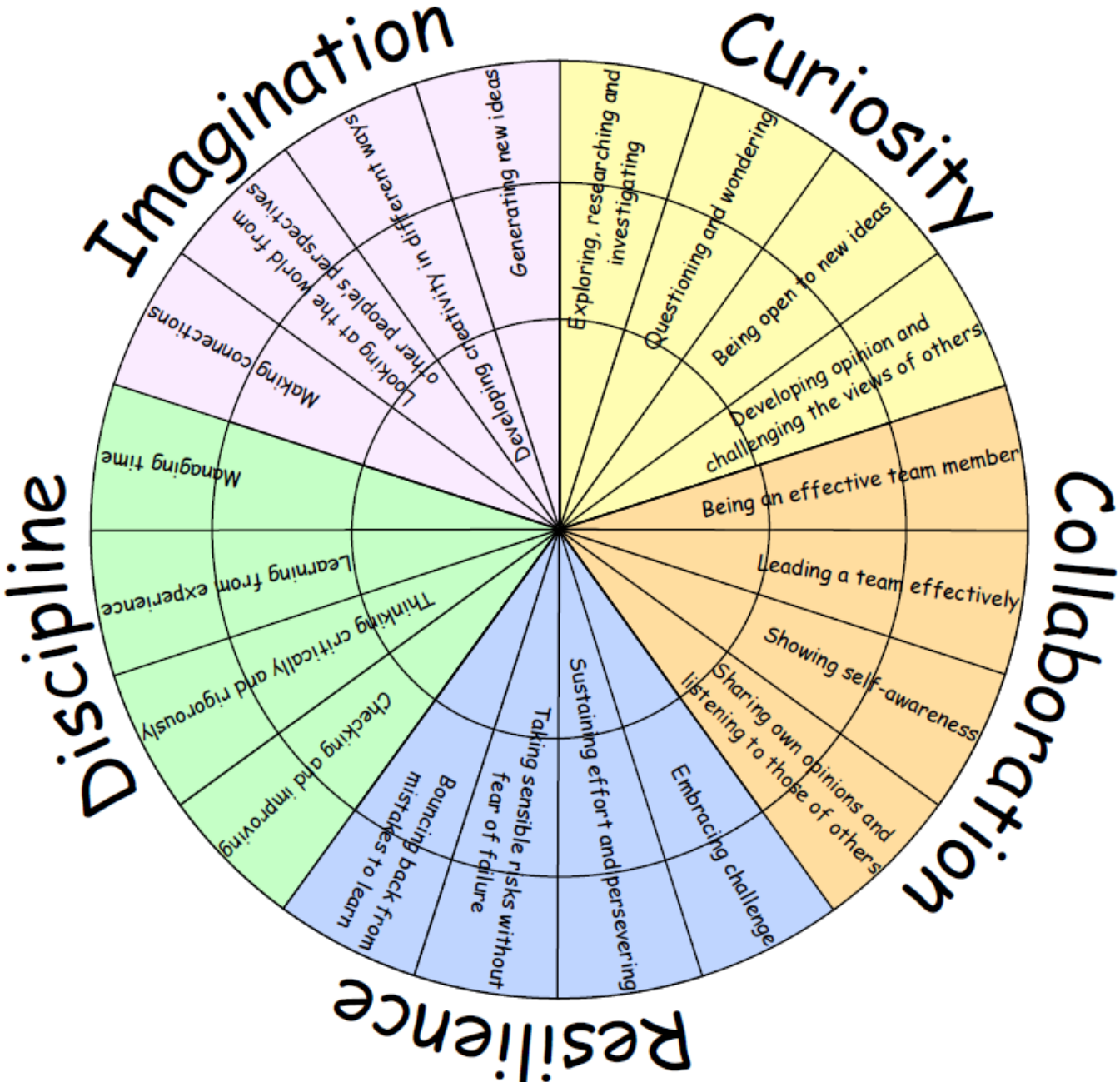




I CAN MAKE GENERALISATIONS ABOUT TWO-STEP NUMBER PATTERNS AND EXPRESS THEM ALGEBRAICALLY

PROPERTIES OF NUMBER (21IV)

LEARNING HABITS?



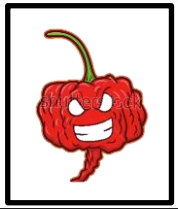
I started with £12 in the bank.

At the end of each week, I added £5.

a) How much money will I have after 15 weeks?

b) How long will it take me to save over £200?

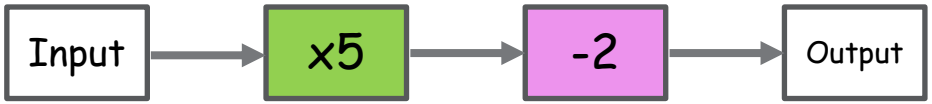
GUIDED PRACTICE



Can you write this algebraically?

3 B4 Me - help

Complete the table using this function machine:



Input	1	2	3	4	5	10
Output	3	8				

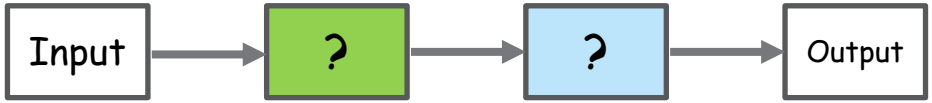
What is the times table in this question?

I have £3 in the bank. Each week I save a further £7. Here is a function machine showing this. Complete the table:

No. of weeks						
Amount of money						

What is the times table in this question?

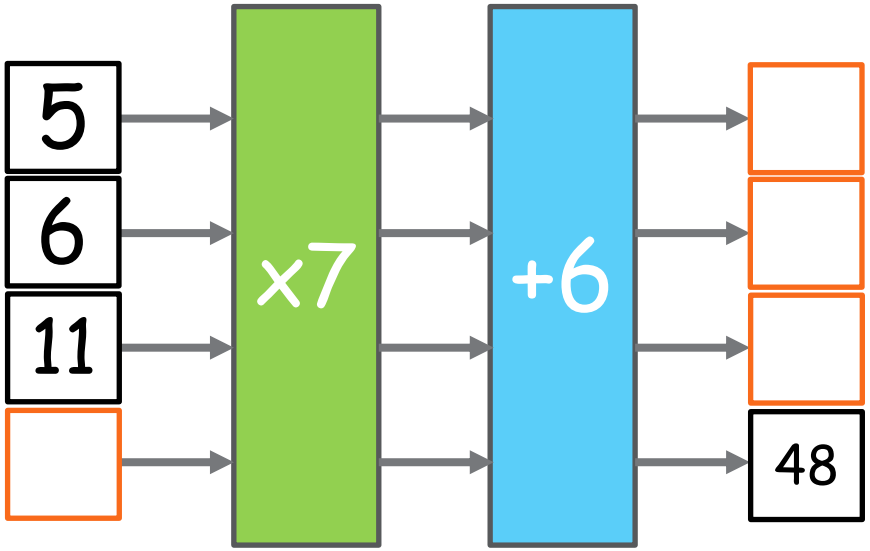
There are 5 people on a bus. More people get onto the bus in groups of 4 at each stop.



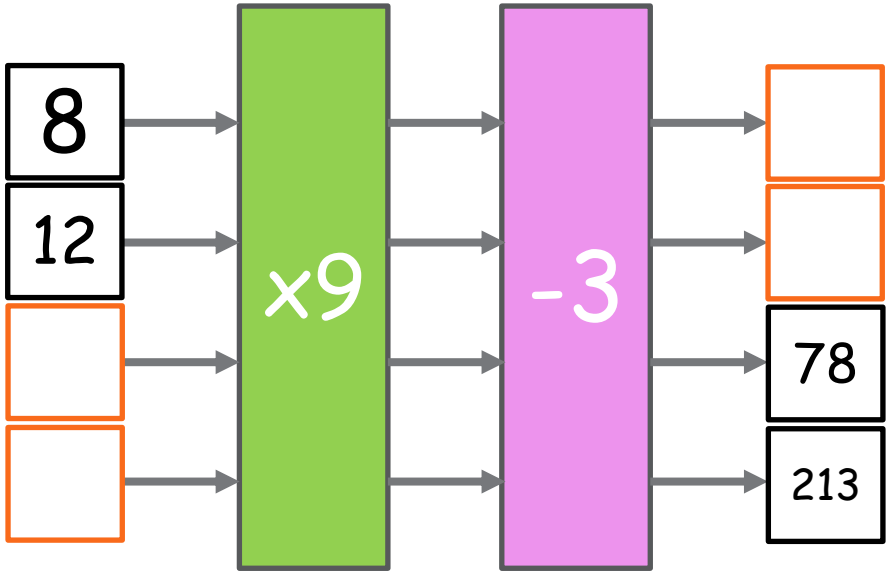
No. of stops						
No. of people						

DIVE DEEPER 1

1) Copy and complete the answers here:



2) Copy and complete the answers here:



3) I start with £12.
I sell glasses of lemonade for £2 each.
a) Draw an input/output machine.
b) Draw a table for inputs of 1,2,3,4,5 glasses.
c)How much money will I have if I sell 6 glasses?
How many will I have to sell to reach £50?

4) Complete the table and create an input/output machine for it:

INPUT	1	2	3	5	10
OUTPUT	12	17	22		

DIVE DEEPER 2

3) I start with £12.

I sell glasses of lemonade for £2 each.

a) Complete the function machine by adding operations and colours

b) Draw a table for inputs of 1,2,3,4,5 glasses.

INPUT					
OUTPUT					

c) How much money will I have if I sell 6 glasses?

d) How many will I have to sell to reach £50?

4) Complete the table:

INPUT	1	2	3	5	10
OUTPUT	12	17	22		

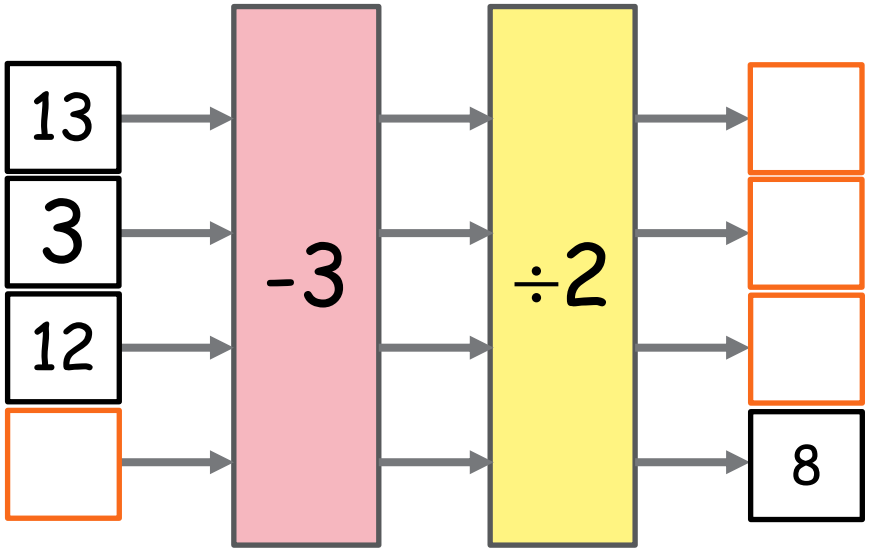
Complete the function machine with operations and colours:

c) If the input is 20, what will the output be (be careful, it is **not** double the output when the input is 10)?

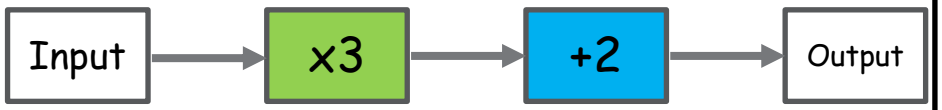
d) If the output is 89, what is the input?

DIVE DEEPER 3

5) Copy and complete the answers here:



6) Hayley has a function machine as follows:

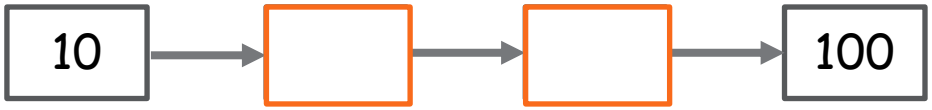


She wants to find the output when the input is 100.

She says that she will find the output when the input is 10 and then multiply that by 10.

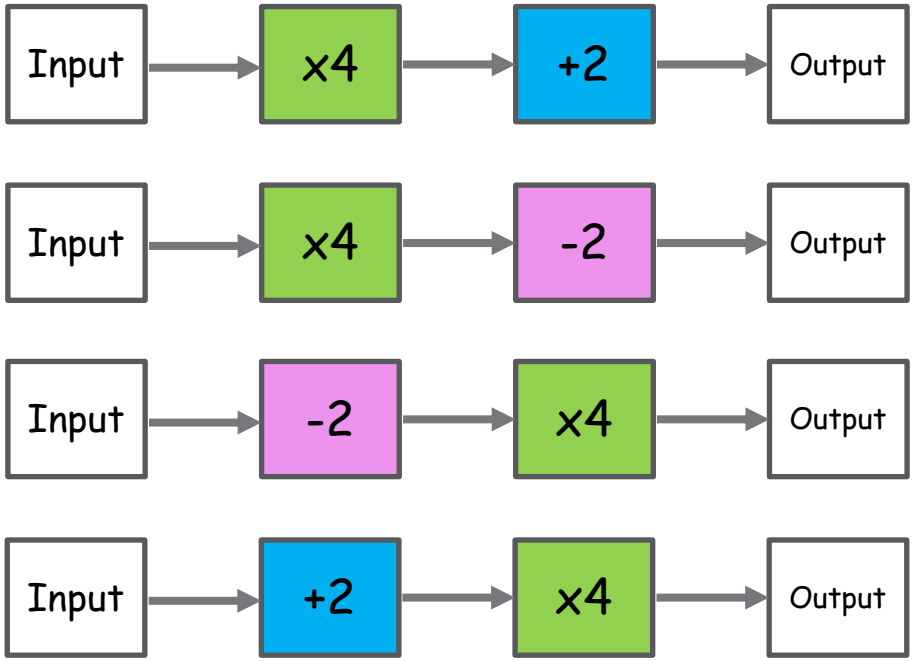
Will this work? Why?

7) Katie is investigating two different function machines.
She inputs 10 and the output is 100.
a) What could the functions be?



DIVE DEEPER 4

9) Match the following by drawing lines:



$(x - 2) \times 4$

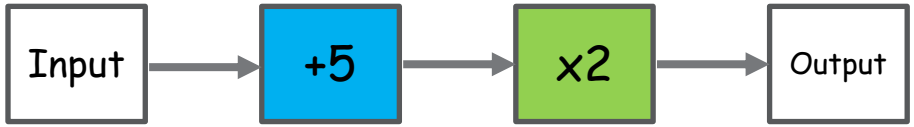
$4x - 2$

$(x + 2) \times 4$

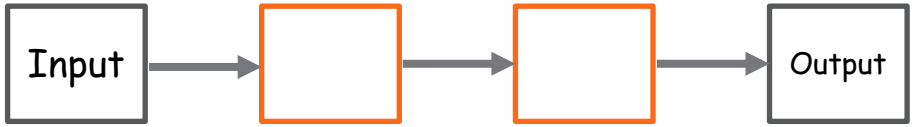
$4x + 2$

DIVE DEEPER 5

10) Can you find a way to write this function machine with the multiplication first?



You might need to use a table; you may need trial and improvement; you may need to use algebra. Take on the challenge! Complete your working on paper and then fill in the boxes here (no colour to help you!)



SELF-ASSESSMENT

- Some will even explain how they can change two-step machines into one-step machines
- Some will explain how changing the steps affects the output
- Most will be able to do the inverse of two-step machines
- All will find the answers for two-step machines