

3.2.21

Arithmetic

1. $\frac{1}{6} \div 4$

4. $\frac{2}{5} - \frac{2}{5}$

2. $\frac{4}{9} \times \frac{3}{7}$

5. $\frac{1}{8} + \frac{2}{3}$

3. $\frac{4}{9} \div 3$

6. $\frac{3}{8} - \frac{3}{4}$

FB4

Flashback 4

Year 6 | Week 4 | Day 5

- 1) Work out 20% of 90
- 2) Write three-quarters as a percentage.
- 3) Work out $2\frac{1}{2} + 3\frac{3}{4}$
- 4) Subtract 264 from 1,000



Problems of the Day

Problems of the Day 2020

Day 8

1 Workers in a factory make toys.

- On Monday they make 2,350 toys.
- On Tuesday they make 235 more toys than they did on Monday.

By Wednesday they have to make 7,500 toys in total.

How many toys do they need to make on Wednesday to make 7,500 in total?

2



Carrots
£1.80 per kg

How much does 250 g of carrots cost?

3

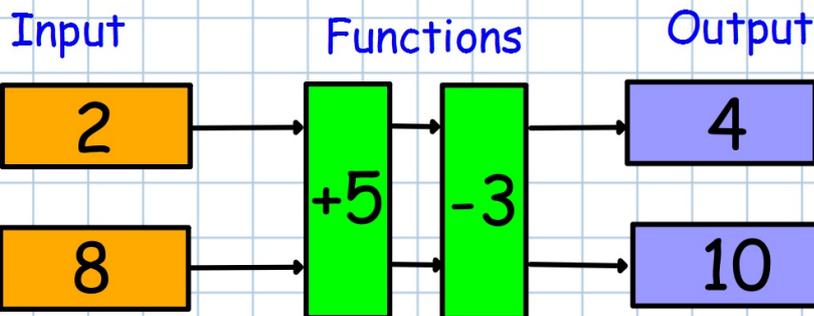


Parsnips
£2.60 per kg

How much does 300 g of parsnips cost?



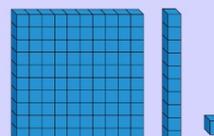
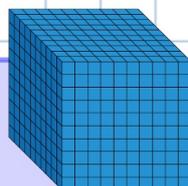
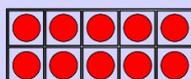
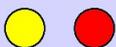
Function machines with two steps



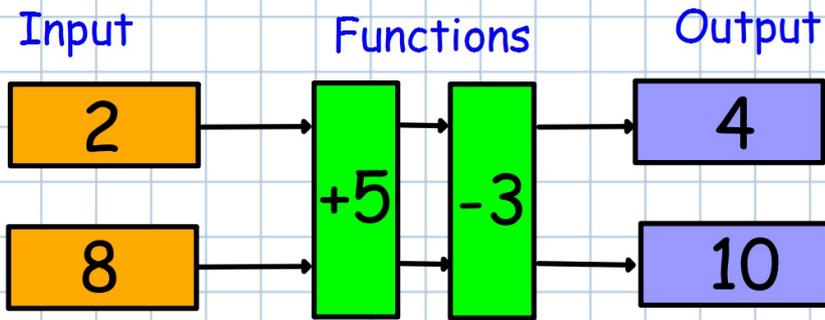
This is a two step function machine. It has one step (+5) and then another step which is -3.

$$2 + 5 - 3 = 4$$

$$8 + 5 - 3 = 10$$



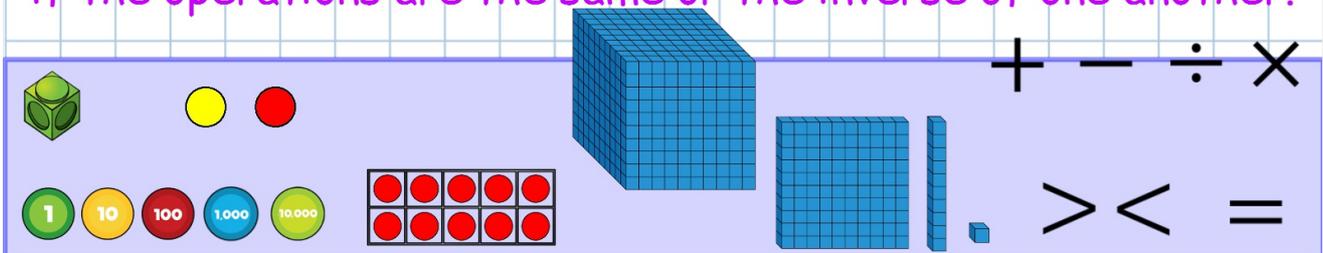
Function machines with two steps



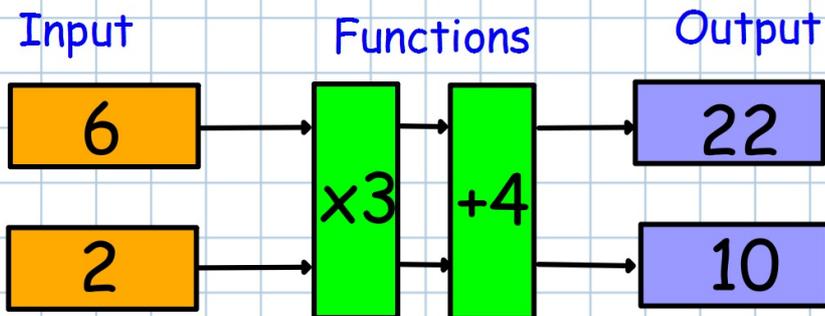
For this function machine, we can complete this in one step as + and - are the inverse of each other.

+5 and -3 is the same as just adding 2.

We can only turn two step function machines into one step if the operations are the same or the inverse of one another.



To calculate the output

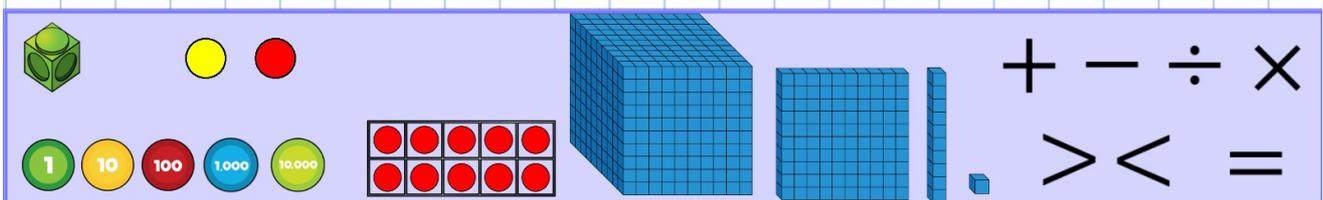


To calculate the output, we take the input and carry out the operations **IN THE ORDER THAT THEY ARE GIVEN**.

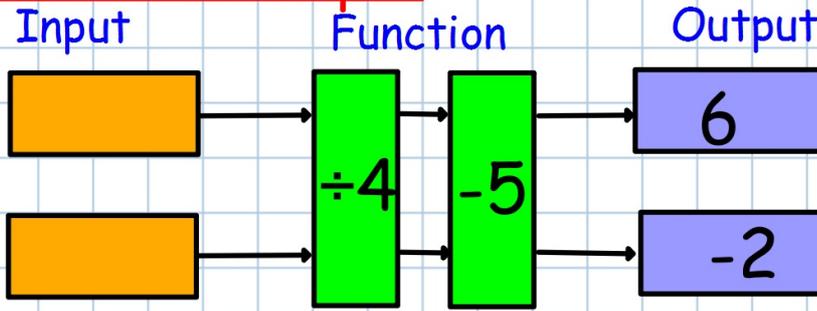
If we did it in a different order, sometimes we would

end up with different outputs. e.g. $6 + 4 = 10$, $10 \times 3 = 30$

$2 + 4 = 6$, $6 \times 3 = 18$



To calculate the input



To calculate the input, take the out and carry out the INVERSE of the functions in the order that they are given (FROM RIGHT to LEFT).

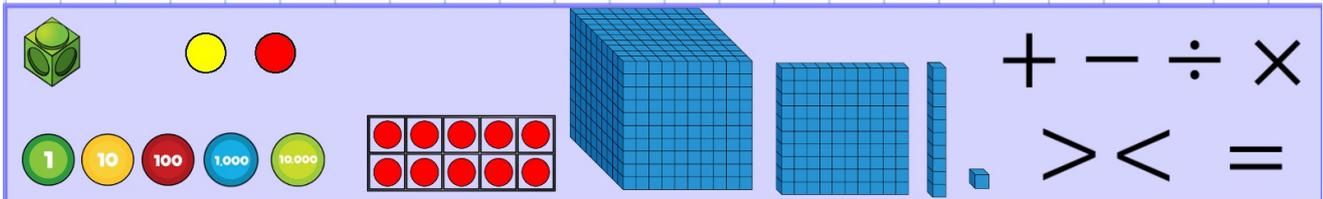
This means we +5 first and then multiply by 4.

INVERSE OF
THE FUNCTIONS

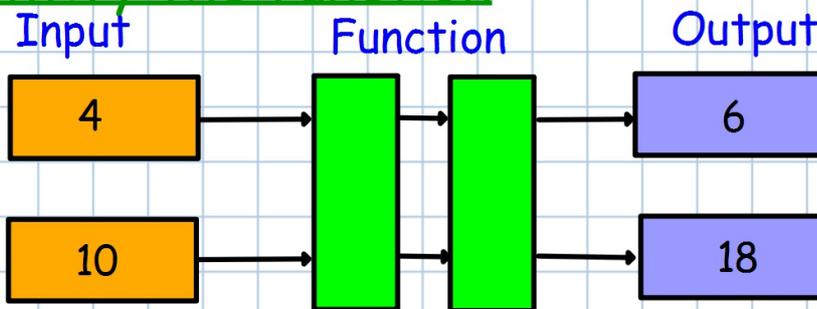
$$6 + 5 = 11, 11 \times 4 = 44$$

$$-2 + 5 = 3, 3 \times 4 = 12$$

so 44 and 12
were the inputs



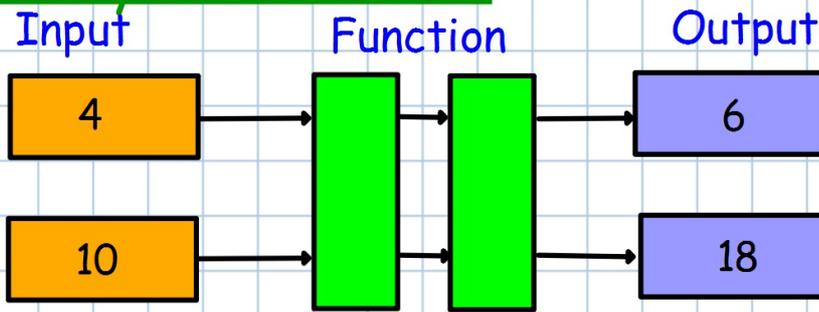
To identify the function



This is harder as there are two functions, we need to see if we can spot any patterns.

1. Look at the outputs and compare to the inputs.
2. The output has become bigger than the input (this probably means the function is addition or multiplication).
3. The difference between the numbers has increased, so we aren't adding the same amount each time. Are the numbers near doubles? Are the outputs multiples of each other? Are they close to the inputs?

To identify the function



This is harder as there are two functions, we need to see if we can spot any patterns.

We can now try some examples, using the first example and then the second.

$$4 \times 1 + 2 = 6$$

$$10 \times 1 + 2 = 18 \quad \text{INCORRECT}$$

$$4 \times 2 - 2 = 6$$

$$10 \times 2 - 2 = 18 \quad \text{CORRECT FOR BOTH}$$

So the functions are $\times 2$ and then -2

3.2.21

Find a rule - two step

Vocabulary

- algebra
- function
- input
- output
- two-step

3.2.21 Find a rule - two step

Today we are learning to find a rule to explain an input and output relationship with two steps.

I will be successful if:

- I recognise what the input and output of the machine is.
- I know how to apply the functions to the input (and in which order).
- I recognise the effect of the functions on the input.
- I can work 'backwards' from the output (and use the function) to find the input.

3.2.21

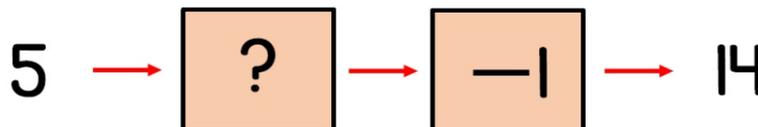
Plenary

True or False?

True or False ?

Find a rule - two step

Rosie is exploring two step function machines.



Rosie

The missing function must be +10