



**Year 6
Maths
Thursday 25th June**



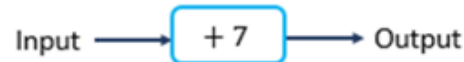
Starter

Flashback

4

Year 6 | Week 5 | Day 4

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



- 2) Find 25% of 180
- 3) Write $\frac{3}{4}$ as a decimal
- 4) How many sides has a hexagon?



Flashback 4

Year 6 | Week 5 | Day 4

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



- 2) Find 25% of 180 45
- 3) Write $\frac{3}{4}$ as a decimal 0.75
- 4) How many sides has a hexagon? 6



Lesson Aims

- I can create and use formulas.



Main Teaching

If ★ = 20 and (= 2.5, calculate:

$$\star + (+ ($$

$$\star \times ((+ ($$

$$3($$



If $\star = 20$ and $(= 2.5$, calculate:

$$\star + (+ ($$

$$20 + 2.5 + 2.5 = 25$$

$$\star \times ((+ ($$

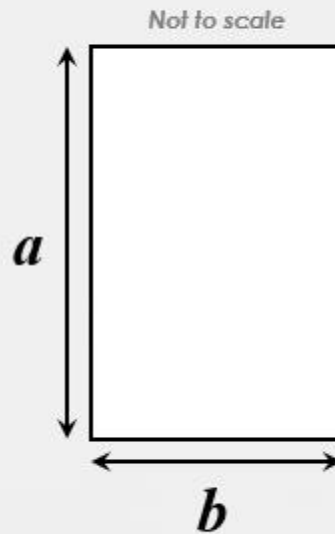
$$20 \times (2.5 + 2.5) = 100$$

$$3($$

$$3 \times 2.5 = 7.5$$

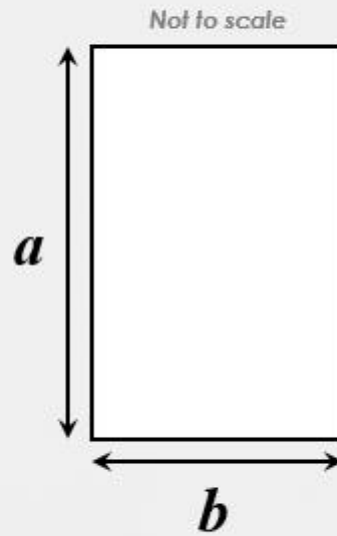


Work out the perimeter (p) of this shape using the formula $p = 2a + 2b$, if $a = 2.5\text{cm}$ and $b = 3.5\text{cm}$.





Work out the perimeter (p) of this shape using the formula $p = 2a + 2b$, if $a = 2.5\text{cm}$ and $b = 3.5\text{cm}$.



12cm



Using words in a formula

Sometimes, formulae use words instead of just letters.

Example:

Libby works in a pet shop. She earns £30 a day plus £10 for every pet she sells.

The formula to show this would be:

Amount earned = £30 + (10 x number of pets sold).

How much would Libby earn if she sold 5 pets on Monday?

To solve this, you would have to substitute the number 5 into the “number of pets sold.”

Amount earned = £30 + (10 x 5)

So Libby would earn **£80** on Monday.





The formula to show this would be:

Amount earned = £30 + (10 x number of pets sold).

How much would Libby earn if she sold 9 pets on Tuesday?

This time, you would substitute the number 9 into the “number of pets sold.”

Amount earned = £30 + (10 x 9).

Libby would earn **£120** this time.



A window cleaner is deciding how to charge for her services. She decide that the price (p) should be set at £1.20 per window (w) and £0.40 per mile (m) travelled.

Expressed as the formula:

$$c = (1.20 \times w) + (0.4 \times m)$$

A house has 10 windows and involves 5 miles travel. How much should the window cleaner charge?



A window cleaner is deciding how to charge for her services. She decide that the price (p) should be set at £1.20 per window (w) and £0.40 per mile (m) travelled.

Expressed as the formula:

$$c = (1.20 \times w) + (0.4 \times m)$$

A house has 10 windows and involves 5 miles travel. How much should the window cleaner charge?

$$c = (1.20 \times 10) + (0.4 \times 5) = 12 + 2 = \text{£}14$$



Here is a formula for amount of fabric (f) needed to make a pair of curtains.

$$f = 2w \times h$$

A window is 5.4 metres wide (w) and 1 metre high (h).
Jamie has 9m^2 of fabric.

Does Jamie have enough fabric? Convince me.



Here is a formula for amount of fabric (f) needed to make a pair of curtains.

$$f = 2w \times h$$

A window is 5.4 metres wide (w) and 1 metre high (h).
Jamie has 9m^2 of fabric.

Does Jamie have enough fabric? Convince me.

Various answers, for example:

**Jamie does not have enough fabric because $f = (2 \times 5.4) \times 1 = 10.8$
 $\times 1 = 10.8\text{m}^2$**



Benjamin's pocket money (p) is calculated by halving his age (a) and adding 10.

Which two formulae represent this?

A. $p = 0.5a + 10$

B. $p = 2a + 10$

C. $p = \frac{a}{2} + 10$

Explain how you know.



Benjamin's pocket money (p) is calculated by halving his age (a) and adding 10.

Which two formulae represent this?

A. $p = 0.5a + 10$

B. $p = 2a + 10$

C. $p = \frac{a}{2} + 10$

Explain how you know.

Various answers, for example:

A and C because finding a half can be achieved by multiplying by 0.5, or dividing by 2; B involves doubling Benjamin's age.



Complete the activities attached to the website.

Answers are on the website.



Review

- Can you review your learning?
- Can you explain to others how use formulas?