



## Formulae

- Writing and simplifying a formula
- Using a formula

Keywords

You should know

### explanation 1

- 1** Martha has  $x$  pencils. Daniel has 5 pencils.

Write a formula for the total number of pencils,  $P$ .

- 2** Charlie has  $x$  books. He gives 3 to his friend Ahmed.

Write a formula for the number of books,  $N$ , that Charlie has left.

- 3** A cinema ticket costs  $\pounds c$ . Paul buys a ticket for himself and three friends.

Write a formula for the cost of the tickets,  $T$ .

- 4** Sarah and Carl had a box of  $b$  sweets. They shared them equally between them. Write a formula for the number of sweets,  $N$ , each friend received.

- 5** Adam has  $x$  pets. Bahavna has  $y$  pets. Write a formula for the number of pets,  $P$ , that they have altogether.

- 6** Krishan was given  $\pounds y$  pocket money on Saturday and he spent  $\pounds x$ .

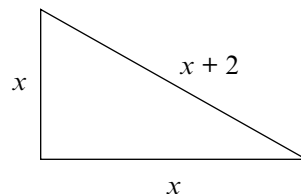
Write a formula for the amount of money he has left,  $M$ .



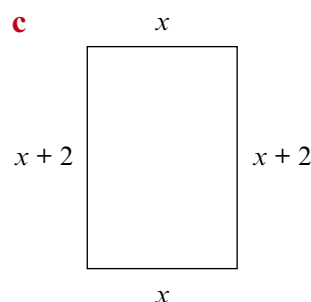
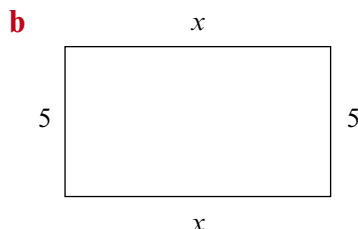
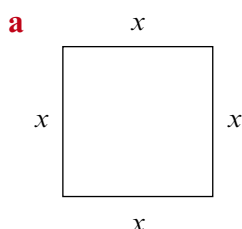
### explanation 2

- 7 a** Explain why the formula for the perimeter,  $P$ , of this triangle is  $P = 3x + 2$ .

- b**  $x = 10$  cm. Use the formula  $P = 3x + 2$  to find the perimeter.



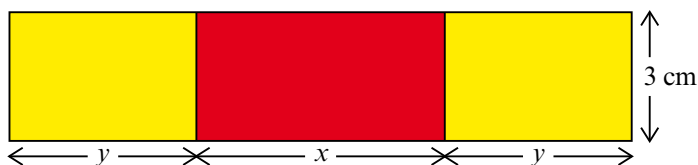
- 8** Find and simplify a formula for the perimeter,  $P$ , of each shape.



- 9** James has  $m$  marbles. Jenna has 3 more marbles than James.

- a** How many marbles does Jenna have?  
**b** Write a formula for the total number of marbles,  $T$ , they have altogether.

- 10** The diagram shows a flag made from three pieces of material. Each piece is measured in centimetres.



- a** Write a formula for the length,  $L$ , of the flag.  
**b** Write a formula for the perimeter,  $P$ , of the flag.  
**c** Write a formula for the area,  $A$ , of the flag.
- 11** The perimeter of a shape is found using the formula  $P = 4x - 6$ .  
**a** Find the perimeter of the shape when  $x = 5$  cm.  
**b** Find the perimeter of the shape when  $x = 8$  cm.
- 12** The formula for the area of a rectangle is  $A = bh$ . Find the area of a rectangle with base,  $b$ , 6 cm and height,  $h$ , 4 cm.

$bh$  means  $b \times h$

- 13** The formula for the perimeter of a rectangle is  $P = 2b + 2h$ . Find the perimeter of a rectangle with  $b = 10$  cm and  $h = 4$  cm.