# Form algebraic expressions

**1** Match each algebraic expression with the correct description.

| | |
|---|---|
| $2x$ | two more than $x$ |
| $x + 2$ | $x$ less than two |
| $2 - x$ | two less than $x$ |
| $x - 2$ | $x$ multiplied by two |

**2** There are $k$ balls in each box.

**a)** For each picture, write an algebraic expression to describe the number of balls.
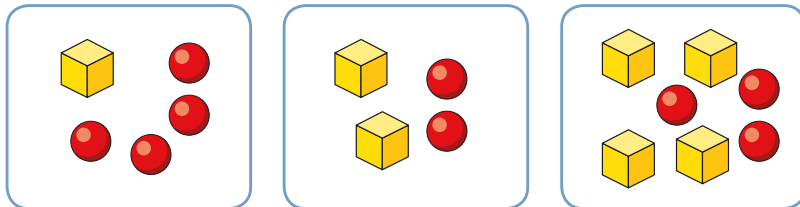
**b)** Which sentence is true?

A                       B
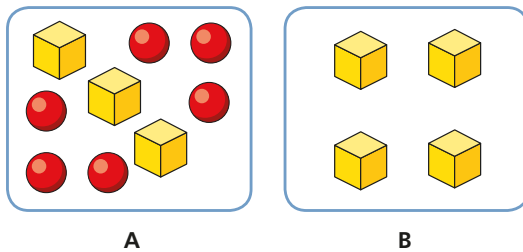
A has more balls than B.

B has more balls than A.
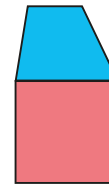
More information is needed to know which has more.

**3** The pink square has an area of $8p$ squares.

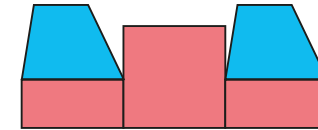The blue trapezium has an area of $5t$ squares.

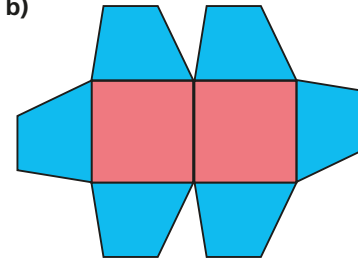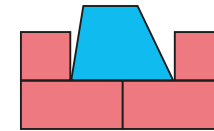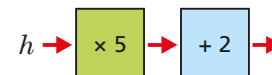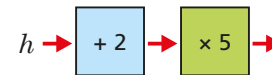Write an expression for the total area of each compound shape.

8p    5t

a)           c)

b)           d)

**4** Match each function machine with the correct expression.

$h \rightarrow \boxed{\times 5} \rightarrow \boxed{+ 2} \rightarrow$        $5(h + 2)$

$h \rightarrow \boxed{+ 2} \rightarrow \boxed{\times 5} \rightarrow$        $5h + 2$

$h \rightarrow \boxed{\div 2} \rightarrow \boxed{+ 5} \rightarrow$        $\dfrac{h}{2} + 5$

$h \rightarrow \boxed{+ 5} \rightarrow \boxed{\div 2} \rightarrow$        $\dfrac{h + 5}{2}$

**5** **a)** Rosie has £$m$ in her purse.

She is given £4 pocket money.

Write an expression for how much money she has now.

**b)** Rosie buys two books for $j$ pounds each.

Write an expression for the total cost of the two books.

**a)**



**c)**



**b)**



**d)**



**4** Match each function machine with the correct expression.

$h \rightarrow$ ×5 $\rightarrow$ +2 $\rightarrow$

$h \rightarrow$ +2 $\rightarrow$ ×5 $\rightarrow$

$h \rightarrow$ ÷2 $\rightarrow$ +5 $\rightarrow$
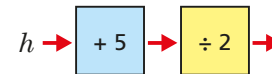
$h \rightarrow$ +5 $\rightarrow$ ÷2 $\rightarrow$

$5(h + 2)$

$5h + 2$

$\dfrac{h}{2} + 5$

$\dfrac{h + 5}{2}$

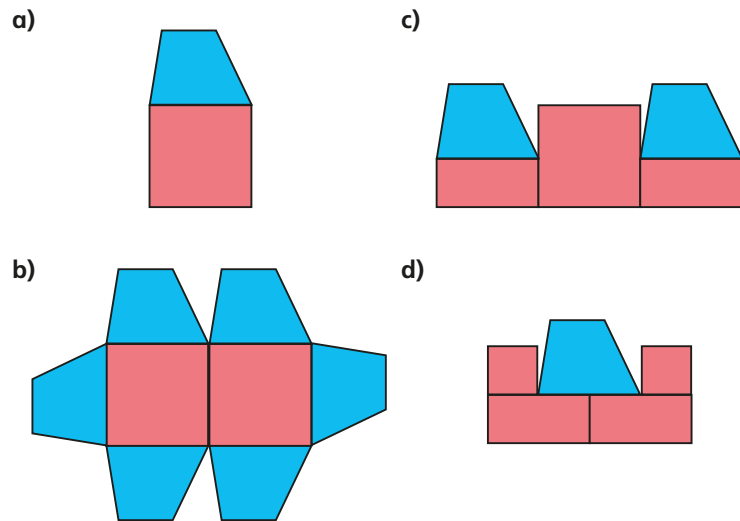**5** **a)** Rosie has £$m$ in her purse.

She is given £4 pocket money.

Write an expression for how much money she has now.

**b)** Rosie buys two books for $j$ pounds each.

Write an expression for the total cost of the two books.

**c)** Rosie buys a cap for $v$ pounds and two scarves for $y$ pounds each.

Write an expression for the total cost of the cap and two scarves.

**6** There are $g$ cupcakes in each box.



Dexter takes two cupcakes out of each box and eats them.

> There are $3g - 2$ cupcakes left.
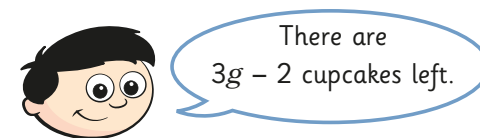
**a)** Explain why Dexter's expression is incorrect.

**b)** Write an expression that would correctly describe the number of cupcakes left.

Compare your answer with a partner's. Is there more than one possible expression?

**7** A grocer is selling some fruit.

Strawberries
£$r$ per 100 g

Oranges
£3$m$ each

Apples
£2$r$ per kilogram

Pears
Special Offer
£2$m$ each or
5 for £8$m$

Write an expression for the total cost of the shopping on the list.

$\frac{1}{2}$ kg strawberries

3.5 kg apples

8 oranges

7 pears