

Identify and use formulae, expressions, identities and equations

1 Match the correct pairs.

$2x + 6$	$x = 2x + 6$	$T = 2x + 6$	$2x + 6 \equiv 2(x + 3)$
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identity	equation	formula	expression
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Explain your answers to a partner.

2 a) Circle all the expressions that are equivalent to $4x - 8$

$4(x - 2)$ $4x + 8$ $3x - 8 + x$ $4(x - 8)$

b) Write two more expressions that are equivalent to $4x - 8$

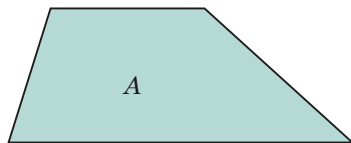
c) Explain what it means for two expressions to be equivalent.

3

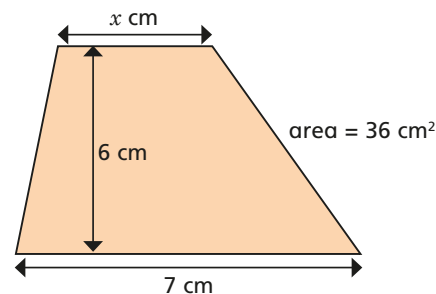
The formula for the area of a trapezium is: half the sum of the parallel sides multiplied by the height.



a) Label the trapezium and write an algebraic formula for the area.



b) Form and solve an equation to find x in this trapezium.



4 Identify all the formulae.

$$l \times w \qquad A = l \times w \qquad \pi r^2$$

$$A = \pi r^2 \qquad \frac{b \times h}{2} \qquad A = \frac{b \times h}{2}$$

What do you notice about all of your answers?

Discuss with a partner.

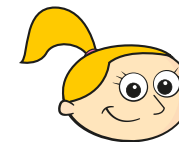
5 Where does each card belong? Fill in the table.

$5 - 2s$	$3x + 2$
$4 - y = 1$	$5 - 2R = N$
$A = 3T + 2$	$3P + 5 = 16$

Expression	Equation	Formula

Write two more of your own expressions, equations and formulae.

6 Eva is trying to define an equation.



An equation has an equals and is used to work out something you don't know.

a) Is this a good definition? Explain your thinking.

b) Write your own definition for an equation.

Discuss your definition with a partner.

Identify and use formulae, expressions, identities and equations

- 4 Identify all the formulae.

$$l \times w$$

$$A = l \times w$$

$$\pi r^2$$

$$A = \pi r^2$$

$$\frac{b \times h}{2}$$

$$A = \frac{b \times h}{2}$$

What do you notice about all of your answers?

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$$3x + 2$$

$$4 - y = 1$$

$$5 - 2R = N$$

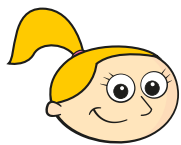
$$A = 3T + 2$$

$$3P + 5 = 16$$

Expression	Equation	Formula

Write two more of your own expressions, equations and formulae.

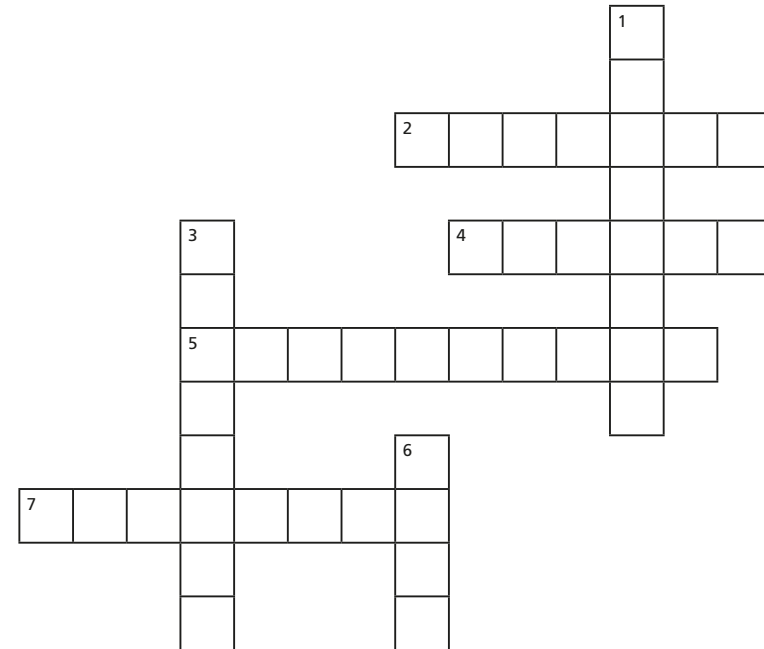
- 6 Eva is trying to define an equation.



An equation has an equals and is used to work out something you don't know.

- Is this a good definition? Explain your thinking.
- Write your own definition for an equation.
Discuss your definition with a partner.

- 7 Complete the crossword.



ACROSS

- A collection of numbers, algebraic terms and operations that describe how to find the value of a specific variable.
- An algebraic value in a multiplication.
- A collection of numbers, algebraic terms and operations describing one or multiple calculations.
- An algebraic term that can take different values.

DOWN

- Two expressions that have the same value for some unknown algebraic term.
- Two expressions that will always be equal in value.
- A single number or variable, or a product of several numbers or variables separated by + or -.