

Expand 2 brackets and simplify expressions

e.g. where $n \geq 1$ $4(nx \pm 5) + 6(nx \pm 3)$

Maths

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Expand 2 brackets and simplify expressions

1. Use the the grids to help you expand and simplify.

a) $3(x + 2)$

x	x	+2
3		

b) $4(x - 3)$

x	x	-3
4		

- c) Use your answers to parts a) and b) to help you to simplify.

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

2. Expand and simplify these expressions.

a) $5(x + 4) + 3(x - 2)$ b) $5(x - 4) + 3(x + 2)$

c) $5(x - 4) + 3(x - 2)$

What is the same and what is different about each of your answers?

3. Expand and simplify.

a) $4(1 - y) + 6(4 + y)$ b) $2(5g - 1) + 6(3 + 2g)$

c) $3(2p - 1) + 2(3p + 4)$ d) $x(5 + x) + 7(x - 1)$



Expand 2 brackets and simplify expressions

4. Which is the odd one out?

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

$$3(2x + 4) - 6$$

$$2(2x + 1) + 2(x + 2)$$

$$3(x - 3) + 3(x + 5)$$

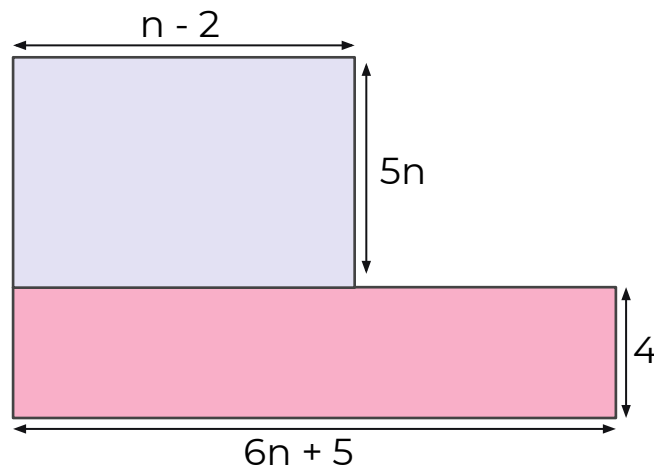
$$5x - 1 + 7 + x$$

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

5. Spot the error.

$$\begin{aligned} 2(3d - 4e) + 3(6e - 5d) &\equiv 6d - 8e + 18e + 15d \\ &\equiv 24d + 7e \end{aligned}$$

6. Find the area of the compound shape.



Answers



Expand 2 brackets and simplify expressions

1. Use the the grids to help you expand and simplify:

a) $3(x + 2)$

x	x	+2
3	$3x$	$+6$

b) $4(x - 3)$

x	x	-3
4	$4x$	-12

2. Expand and simplify these expressions.

a) $5(x + 4) + 3(x - 2)$ $5x + 20 + 3x - 6 \equiv 8x + 14$

b) $5(x - 4) + 3(x + 2)$ $5x - 20 + 3x + 6 \equiv 8x - 14$

c) $5(x - 4) + 3(x - 2)$ $5x - 20 + 3x - 6 \equiv 8x - 26$

What is the same/different?

Same $8x$ term but final number/sign differs

c) Use your answers to parts a) and b) to help you to simplify

$3(x + 2) + 4(x - 3)$ $3x + 6 + 4x - 12 \equiv 7x - 6$



Expand 2 brackets and simplify expressions

3. Expand and simplify the expressions.

a) $4(1 - y) + 6(4 + y)$ b) $2(5g - 1) + 6(3 + 2g)$

$$4 - 4y + 24 + 6y$$
$$\equiv 28 + 2y$$

$$10g - 2 + 18 + 12g$$
$$\equiv 22g + 16$$

c) $3(2p - 1) + 2(3p + 4)$ d) $x(5 + x) + 7(x - 1)$

$$6p - 3 + 6p + 8$$
$$\equiv 12p + 5$$

$$5x + x^2 + 7x - 7$$
$$\equiv x^2 + 12x - 7$$



Expand 2 brackets and simplify expressions

4. Which is the odd one out?

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

$$2(2x + 1) + 2(x + 2)$$

$$5x - 1 + 7 + x$$

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

$$6x - 2$$

$$3(x - 3) + 3(x + 5)$$

$$6x + 6$$

$$3(2x + 4) - 6$$

5. Spot the error.

$$2(3d - 4e) + 3(6e - 5d) \equiv 6d - 8e + 18e + 15d$$

$$\equiv 24d + 7e$$

$$-15d$$

6. Find the area of the compound shape.

