

Expanding Double Brackets

ANSWERS

1

Expand and simplify $(x+3)(x+5)$

$\times$	x	$+5$
x	x^2	$5x$
$+3$	$3x$	15

$$x^2 + 5x + 3x + 15$$

Add the two x terms.

Answer $x^2 + 8x + 15$

2

Expand and simplify $(x+4)(x+2)$

$\times$	x	$+2$
x	x^2	$2x$
$+4$	$4x$	8

$$x^2 + 2x + 4x + 8$$

Answer $x^2 + 6x + 8$

3

Expand and simplify $(x+6)(x+1)$

$\times$	x	$+1$
x	x^2	x
$+6$	$6x$	6

$$x^2 + x + 6x + 6$$

Answer $x^2 + 7x + 6$

4

Expand and simplify $(x+5)(x-3)$

$\times$	x	-3
x	x^2	$-3x$
$+5$	$5x$	-15

$$x^2 - 3x + 5x - 15$$

Answer $x^2 + 2x - 15$

5

Expand and simplify $(x-4)(x+7)$

$\times$	x	$+7$
x	x^2	$7x$
-4	$-4x$	-28

$$x^2 + 7x - 4x - 28$$

Answer $x^2 + 3x - 28$

6

Expand and simplify $(x-2)(x-6)$

$\times$	x	-6
x	x^2	$-6x$
-2	$-2x$	12

$$x^2 - 6x - 2x + 12$$

Answer $x^2 - 8x + 12$

7

A rectangle has sides of $(x+3)$ and $(x+5)$. Write an expression for its area. Expand and simplify.

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

Answer $x^2 + 8x + 15$

8

Expand and simplify $(x+4)^2$

$$(x+4)(x+4)$$

Answer $x^2 + 8x + 16$

Expanding Double Brackets further practice

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9

Expand and simplify $(x-3)(x-8)$

$$x^2 - 8x - 3x + 24$$

Answer $x^2 - 11x + 24$

10

A poster is $(2x+3)$ cm wide and $(x+4)$ cm tall. Write an expression for its area. Expand and simplify.

$$2x^2 + 8x + 3x + 12$$

Answer $2x^2 + 11x + 12 \text{ cm}^2$

11

Expand and simplify $(x+7)(x-7)$

$$x^2 - 7x + 7x - 49$$

Answer $x^2 - 49$

12

Find the missing number.

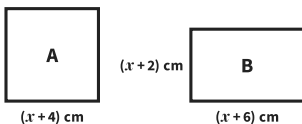
$$(x+3)(x+\boxed{}) = x^2 + 10x + 21$$

$$3 \times 7 = 21 \text{ and } 3 + 7 = 10$$

Answer 7

13

A is a square and B is a rectangle. Which has the bigger area, and by how much?

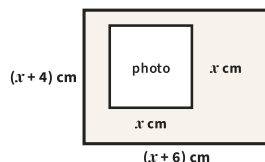


$$A: x^2 + 8x + 16 \quad B: x^2 + 8x + 12$$

Answer $A, \text{ by } 4 \text{ cm}^2$

14

A square photo with sides of x cm is stuck on a rectangle of card. Find an expression for the area of card that is not covered by the photo.



$$x^2 + 10x + 24 - x^2$$

Answer $10x + 24 \text{ cm}^2$

15

Expand and simplify $(x+5)^2 - (x+1)(x+3)$

$$x^2 + 10x + 25 - (x^2 + 4x + 3)$$

Answer $6x + 22$

16

Ollie says $(x+3)^2 = x^2 + 9$. Is Ollie right? Explain.

$$(x+3)(x+3) = x^2 + 3x + 3x + 9$$

he left out the two $3x$ terms

Answer No