

Expanding double brackets

1. Expand and simplify $(x + 7)(x + 6)$.

$$x^2 + 7x + 6x + 42$$

$$x^2 + 13x + 42$$

(2 marks)

2. Expand and simplify $(x + 8)(x + 3)$.

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

$$x^2 + 11x + 24$$

(2 marks)

3. Expand and simplify $(x - 5)(x + 7)$.

$$x^2 - 5x + 7x - 35$$

$$x^2 + 2x - 35$$

(2 marks)

4. Expand and simplify $(y - 5)(y - 4)$.

$$y^2 - 5y - 4y + 20$$

$$y^2 - 9y + 20$$

(2 marks)

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5. Expand and simplify $(x - 9)^2$.

$$\begin{aligned} x^2 - 9x - 9x + 81 \\ x^2 - 18x + 81 \end{aligned}$$

(2 marks)

6. Expand and simplify $(2x + 1)(2x + 2)$.

$$\begin{aligned} 4x^2 + 2x + 2x + 1 \\ 4x^2 + 4x + 1 \end{aligned}$$

(2 marks)

7. Expand and simplify $(3y - 1)(y + 10)$

$$\begin{aligned} 3y^2 + 30y - y - 10 \\ 3y^2 + 29y - 10 \end{aligned}$$

(2 marks)

8. Expand and simplify $(5x - 3)(3x - 7)$.

$$\begin{aligned} 15x^2 - 35x - 9x + 21 \\ 15x^2 - 44x + 21 \end{aligned}$$

(2 marks)

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9. Expand and simplify $(3x + 4)^2$.

$$9x^2 + 12x + 12x + 16$$

$$9x^2 + 24x + 16$$

(2 marks)

10. Expand and simplify $(7y - 2)^2$.

$$49y^2 - 14y - 14y + 4$$

$$49y^2 - 28y + 4$$

(2 marks)

11. Expand and simplify $(5 + k)(2 + k)$.

$$10 + 5k + k^2 + 2k$$

$$k^2 + 7k + 10$$

(2 marks)

12. Expand and simplify $(7 - x)(3 - x)$.

$$21 - 7x - 3x + x^2$$

$$x^2 - 10x + 21$$

(2 marks)

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13. Expand and simplify $(x + 2)(x + 3) + (x + 5)(x + 7)$.

$$\begin{aligned} &(x^2 + 2x + 3x + 6) + (x^2 + 5x + 7x + 35) \\ &(x^2 + 5x + 6) + (x^2 + 12x + 35) \\ &2x^2 + 17x + 41 \end{aligned}$$

(3 marks)

14. Expand and simplify $(x + 7)(x - 3) - (x + 9)(x - 4)$.

$$\begin{aligned} &(x^2 - 3x + 7x - 21) - (x^2 - 4x + 9x - 36) \\ &(x^2 + 4x - 21) - (x^2 + 5x - 36) \\ &-x + 15 \end{aligned}$$

(3 marks)

15. Expand and simplify
 $(2x - 5)(2x - 4) - (3x + 2)(x - 5)$.

$$\begin{aligned} &(4x^2 - 8x - 10x + 20) - (3x^2 - 15x + 2x - 10) \\ &(4x^2 - 18x + 20) - (3x^2 - 13x - 10) \\ &(x^2 - 5x + 30) \end{aligned}$$

(3 marks)

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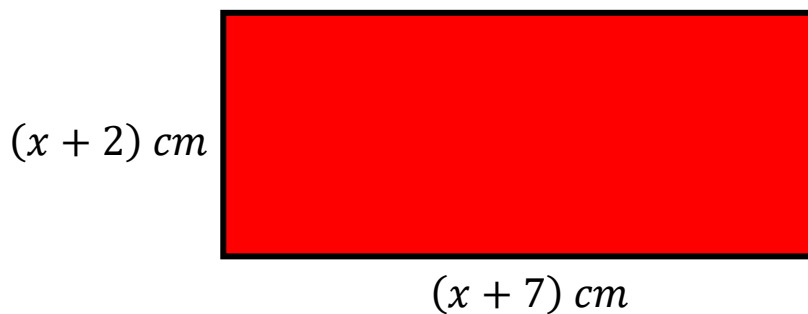
16. Expand and simplify $(x^2 + 8)(x^2 - 5)$.

$$x^4 - 5x^2 + 8x^2 - 40$$

$$x^4 + 3x^2 - 40$$

(3 marks)

17. A rectangle is shown below.
Find an expression for the area of the rectangle.



$$(x + 2)(x + 7)$$

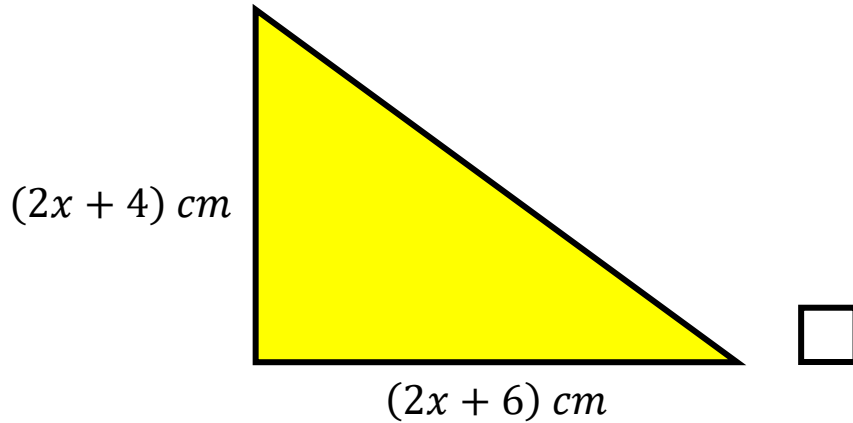
$$x^2 + 7x + 2x + 14$$

$$(x^2 + 9x + 14) \text{ cm}^2$$

(3 marks)

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18. A right angled triangle is shown below.
Find an expression for the area of the triangle.



$$\begin{aligned} &0.5(4x^2 + 12x + 8x + 24) \\ &0.5(4x^2 + 20x + 24) \\ &(2x^2 + 10x + 12) \text{ cm}^2 \end{aligned}$$

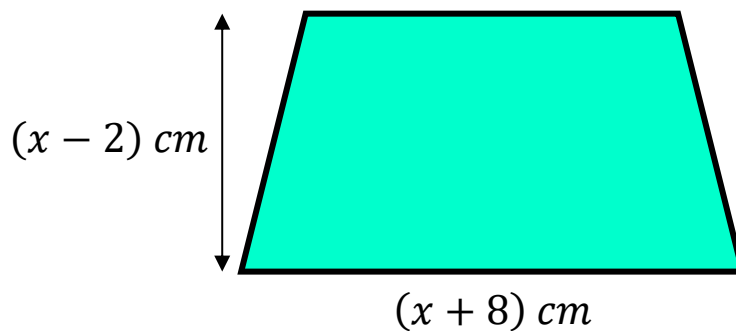
(4 marks)

19. Below is a trapezium.

Find an
the area of the

$$(x + 4) \text{ cm}$$

expression for
trapezium.



$$\begin{aligned} &0.5(x + 4 + x + 8)(x + 8) \\ &0.5(2x + 12)(x + 8) \\ &0.5(2x^2 + 16x + 12x + 96) \\ &(x^2 + 14x + 48) \text{ cm}^2 \end{aligned}$$

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(4 marks)