

Factorising Quadratics

For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **28**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 Factorise $x^2 + 6x + 8$

[2 marks]

Answer _____

2 Factorise $x^2 + 9x + 14$

[2 marks]

Answer _____

3 Circle the expression that is equivalent to $x^2 - 2x - 15$

[1 mark]

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

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

$(x - 15)(x + 1)$

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

4 Factorise $x^2 + 3x - 10$

[2 marks]

Answer _____

5 Factorise $x^2 - 9x + 20$

[2 marks]

Answer _____

6 Factorise $x^2 - 16$

[1 mark]

Answer _____

7 (a) Factorise $x^2 - 5x$

[1 mark]

Answer _____

(b) Factorise $x^2 - 5x + 6$

[2 marks]

Answer _____

8 (a) Factorise $x^2 + x - 12$

[2 marks]

Answer _____

(b) Write down the two solutions of $(x + 4)(x - 3) = 0$

[1 mark]

Answer _____

- 9 Jake factorises $x^2 - 8x + 12$
He writes $(x + 2)(x + 6)$

(a) Explain the mistake Jake has made.

[1 mark]

(b) Factorise $x^2 - 8x + 12$ correctly.

[1 mark]

Answer _____

- 10 Tick **one** box for each statement.

[2 marks]

$$x^2 - 25 = (x - 5)(x + 5)$$

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

$$x^2 - 1 = (x - 1)(x + 1)$$

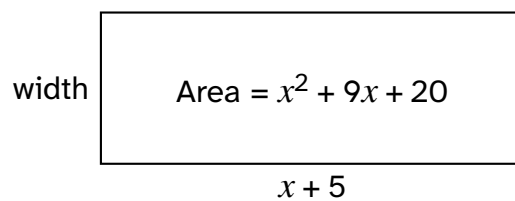
$$x^2 - 36 = (x - 6)^2$$

True

False

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- 11 The area of this rectangle is $(x^2 + 9x + 20) \text{ cm}^2$



Not drawn accurately

Work out an expression for the width of the rectangle.

[2 marks]

Answer _____ cm

- 12 Factorise $x^2 + 14x + 49$

[2 marks]

Answer _____

- 13 a and b are integers.

$$x^2 + bx + 12 \equiv (x + 2)(x + a)$$

Work out the values of a and b .

[2 marks]

$a =$ _____ $b =$ _____

- 14** Use factorising to work out the value of $51^2 - 49^2$
Do **not** use a calculator.

[2 marks]

Answer _____