

Factorising into Single Brackets

For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **34**

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

1 (a) Factorise $5a + 10$

[1 mark]

Answer _____

(b) Factorise $21x + 28$

[1 mark]

Answer _____

2 Factorise $12a + 15b$

[1 mark]

Answer _____

- 3** Which is the correct factorisation of $6x - 9$?
Circle your answer.

[1 mark]

$3(2x - 9)$

$6(x - 3)$

$3(2x - 3)$

$2(3x - 9)$

- 4** (a) Factorise $x^2 + 7x$

[1 mark]

Answer _____

- (b) Factorise fully $3x^2 + 12x$

[2 marks]

Answer _____

- 5** Factorise fully $40y + 80$

[2 marks]

Answer _____

- 6** Mia factorises $8x + 12$
She writes $2(4x + 6)$
Her teacher says her answer is correct but it is not fully factorised.

(a) Explain why $2(4x + 6)$ is not fully factorised.

[1 mark]

(b) Factorise $8x + 12$ fully.

[1 mark]

Answer _____

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

[2 marks]

	True	False
$4x + 20 = 4(x + 5)$	☐	☐
$3y - 12 = 3(y - 12)$	☐	☐
$x^2 + x = x(x + 1)$	☐	☐
$10a + 5 = 5(2a + 5)$	☐	☐

- 8** (a) Write the missing terms in the boxes.

$$6a + 18 = 6(\square + \square)$$

[1 mark]

- (b) Write the missing number in the box.

$$14b - 21 = \square(2b - 3)$$

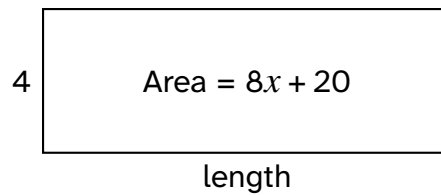
[1 mark]

- 9** Factorise fully $18y^2 - 12y$

[2 marks]

Answer _____

- 10 The area of this rectangle is $(8x + 20) \text{ cm}^2$
The width of the rectangle is 4 cm.



Not drawn accurately

Work out an expression for the length of the rectangle.

[2 marks]

Answer _____ cm

- 11 Factorise fully $4p^2q + 10pq^2$

[2 marks]

Answer _____

- 12 Circle the expression that **cannot** be factorised.

[1 mark]

$4x + 6$

$x^2 + 3x$

$5x + 7$

$9 - 3x$

13 n is a positive whole number.

(a) Show that $6n + 15$ is always a multiple of 3

[2 marks]

(b) Is $5n + 20$ always a multiple of 10?

Tick a box.

Give a reason for your answer.

[2 marks]

☐

Yes

☐

No

14 (a) Expand and simplify $3(2x + 4) + 2(x - 2)$

[2 marks]

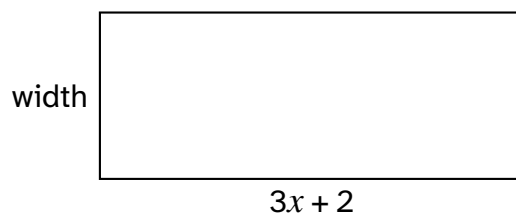
Answer _____

(b) Factorise your answer to part (a) fully.

[1 mark]

Answer _____

15 Here is a rectangle.



Not drawn accurately

The perimeter of the rectangle is $(10x + 6)$ cm
Work out an expression for the width of the rectangle.
Give your answer in its simplest form.

[3 marks]

Answer _____ cm

16 Factorise fully $9m^3 - 6m$

[2 marks]

Answer _____