

Factorising into a single bracket

Grade 4 | Foundation and Higher | 16 questions, 57 marks

GCSE Maths topic practice



Scan for the solutions

Name: _____

Date: _____

Score: _____ / 57

1 Factorise

a. $8x - 12$

b. $14 + 21y$

(2 marks)

Answer _____

2 Factorise fully

a. $x^2 + 7x$

b. $5p^2 - 5p$

(2 marks)

Answer _____

3 a. Expand $4(2x - 5)$

b. Factorise $6y + 15$

(2 marks)

Answer _____

4 Mia says that $12x - 18 = 3(4x - 6)$.

a. Expand $3(4x - 6)$ to check that she is right.

b. Mia has not factorised fully. Write $12x - 18$ fully factorised.

(3 marks)

Answer _____

5 Factorise $6x - 15$. Hence, or otherwise, solve $6x - 15 = 3$.

(3 marks)

Answer _____

- 6
- a. Expand and simplify $3(x + 4) + 2(x - 1)$.
 - b. Factorise your answer to part (a).
 - c. Solve $3(x + 4) + 2(x - 1) = 30$.

(4 marks)

Answer _____

- 7
- a. Factorise $5x + 20$
 - b. Factorise $x^2 - 9x$

(2 marks)

Answer _____

- 8 Factorise $4x + 12$. Hence, or otherwise, solve $\frac{4x + 12}{8} = 5$.

(3 marks)

Answer _____

- 9 Factorise fully $10x - 25$. Hence solve the inequality $10x - 25 < 15$. Describe how you would show your answer on a number line.

(4 marks)

Answer _____

10

- a. Sam expands $3(2x + 4)$ and gets the answer $6x + 4$
Explain the mistake Sam has made.
- b. Factorise fully $12x^2 + 18x$

(3 marks)

Answer _____

11

- The area of a rectangle is $(12x^2 + 18x) \text{ cm}^2$. The width of the rectangle is $6x \text{ cm}$.
Factorise $12x^2 + 18x$ fully and use it to find an expression for the length of the rectangle.

(4 marks)

Answer _____

12

- a. Expand and simplify $(y - 3)(y - 8)$
- b. Factorise fully $4a^2b + 6ab^2$

(4 marks)

Answer _____

13

- a. Expand and simplify $5(2x + 1) - 3(x - 4)$
- b. Factorise fully $18x^2 - 27x$
- c. Simplify $(p^2)^5$

(5 marks)

Answer _____

14

a. Solve $2(3x + 4) = 5x + 17$

b. Factorise fully $6y^2 + 9y$

(4 marks)

Answer _____

15

a. Expand $3x(2x - 5)$

b. Factorise fully $20a^2b - 8ab$

c. Make x the subject of $y = 4x - 7$

(6 marks)

Answer _____

16

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

b. Factorise fully $10y^2 - 15y$

c. Solve $4(2x - 1) = 3x + 16$

(6 marks)

Answer _____

End of questions | Total 57 marks