

Expanding and Factorising

GCSE Maths · Practice Questions

20 questions · 62 marks total

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Section A · Foundation

Questions 1–3 are the most straightforward; they get harder as you go on. Question 10 is the most challenging.

1 [1 mark]

Expand $3(x + 2)$

.....

2 [2 marks]

Expand

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

(b) $x(x + 7)$

.....

3 [2 marks]

Expand and simplify $2(x + 4) + 3(x - 1)$

.....

4 [2 marks]

Factorise $6x + 9$

.....

5 [3 marks]

Factorise fully

(a) $10x - 15$

(b) $x^2 - 6x$

(c) $12ab + 8b$

.....

6

[3 marks]

Expand and simplify $(x + 3)(x + 4)$

7

[3 marks]

Expand and simplify $4(2x - 1) - 3(x - 5)$

8

[3 marks]

Factorise $x^2 + 8x + 15$

9

[4 marks]

Expand and simplify

(a) $(x - 2)(x + 6)$

(b) $(2x + 1)(x - 3)$

10

[4 marks]

A rectangle has length $(x + 5)$ cm and width $(x + 2)$ cm.

(a) Show that the area of the rectangle is $x^2 + 7x + 10$ cm².

(b) A square of side x cm is cut out of the rectangle. Write down a simplified expression for the area that is left.

Higher-tier style. Again, questions 1–3 are the gentlest and question 10 is the hardest.

1 [2 marks]

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

2 [2 marks]

Factorise $x^2 - 81$

3 [3 marks]

Expand and simplify $(2x - 3)^2$

4 [3 marks]

Factorise $3x^2 + 10x + 8$

5 [4 marks]

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

6 [4 marks]

Factorise fully

(a) $2x^2 - 18$

(b) $4x^2 - 20x + 24$

7

[4 marks]

Factorise $6x^2 - x - 12$

8

[4 marks]

Simplify fully $\frac{2x^2 + 7x + 3}{x^2 - 9}$

9

[4 marks]

Prove that $(n + 3)^2 - (n + 1)^2$ is always a multiple of 4 for any integer n .

10

[5 marks]

(a) Expand and simplify $(2n + 1)^2 - (2n - 1)^2$

(b) Hence explain why the difference between the squares of any two consecutive odd numbers is always a multiple of 8.
