Factorization

Syllabus tracker Open it online

Name: _____

Date: _____

Tick one circle for each statement — on screen (click) or with a pen. Then try the quick checks: write your answer in the box, check it against the answers at the end, and tick “right” when you got it.

Two-term expressions

Common factors and the difference of two squares.

	Don't know	Shaky	Got it
I can factorise fully by taking out the highest common factor.	○	○	○
I can factorise a difference of two squares.	○	○	○

Three-term expressions

Quadratics $x^2 + bx + c$ and $ax^2 + bx + c$, and cubics with a common factor.

	Don't know	Shaky	Got it
I can factorise $x^2 + bx + c$.	○	○	○
I can factorise $ax^2 + bx + c$.	○	○	○
I can factorise a cubic by taking out a common factor first.	○	○	○

Four-term expressions

Factorising by grouping.

	Don't know	Shaky	Got it
I can factorise four terms by grouping.	○	○	○

Solving by factorising

Setting each factor equal to zero.

	Don't know	Shaky	Got it
I can solve a quadratic equation by factorising.	○	○	○
I can solve a quadratic with no number term without losing a solution.	○	○	○

Quick checks

One quick question per statement. Answer in the box, then check the answers at the end.

1. Factorise fully $6x^2y - 9xy^2$.

A $3xy(2x - 3y)$ **B** $3x(2xy - 3y^2)$ **C** $xy(6x - 9y)$ **D** $3xy(2x - 9y)$

Answer: _____ ☐ I got it right

2. Factorise $16x^2 - 25y^2$.

A $(4x - 5y)(4x + 5y)$ **B** $(4x - 5y)^2$ **C** $(16x - 25y)(x + y)$ **D** $(8x - 5y)(8x + 5y)$

Answer: _____ ☐ I got it right

3. Factorise $x^2 + 2x - 15$.
A $(x + 5)(x - 3)$ **B** $(x - 5)(x + 3)$ **C** $(x + 15)(x - 1)$ **D** $(x + 5)(x + 3)$

Answer: _____ ☐ I got it right

4. Factorise $2x^2 + 7x + 3$.
A $(2x + 1)(x + 3)$ **B** $(2x + 3)(x + 1)$ **C** $(2x + 7)(x + 3)$ **D** $(x + 1)(x + 3)$

Answer: _____ ☐ I got it right

5. Factorise fully $x^3 + 5x^2 + 6x$.
A $x(x + 2)(x + 3)$ **B** $(x + 2)(x + 3)$ **C** $x(x + 1)(x + 6)$ **D** $x^2(x + 5) + 6x$

Answer: _____ ☐ I got it right

6. Factorise $ax + bx + 3a + 3b$.
A $(a + b)(x + 3)$ **B** $(a + 3)(b + x)$ **C** $(ax + 3)(b + 3)$ **D** $ab(x + 3)$

Answer: _____ ☐ I got it right

7. Solve $2x^2 + 7x + 3 = 0$.

Answer: _____ ☐ I got it right

8. Solve $x^2 = 5x$.

Answer: _____ ☐ I got it right

Answers

Try every question first, then check.

1. A: 3xy(2x – 3y)
2. A: (4x – 5y)(4x + 5y)
3. A: (x + 5)(x – 3)
4. A: (2x + 1)(x + 3)
5. A: x(x + 2)(x + 3)
6. A: (a + b)(x + 3)
7. –3, –1/2
8. (0, 5)