

Algebra

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.

Expressions, equations and formulas

Substitution, expanding brackets, linear equations and changing the subject.

	Don't know	Shaky	Got it
I can substitute numbers into expressions and formulas.	☐	☐	☐
I can expand brackets, including products of more than two brackets.	☐	☐	☐
I can solve linear equations, including brackets and fractions.	☐	☐	☐
I can change the subject of a formula, including powers and roots.	☐	☐	☐
I can change the subject when it appears twice.	☐	☐	☐

Algebraic fractions

Adding, subtracting and simplifying algebraic fractions.

	Don't know	Shaky	Got it
I can add and subtract algebraic fractions.	☐	☐	☐
I can simplify an algebraic fraction by factorising.	☐	☐	☐

Quadratic equations

Solving by factorising, completing the square and the quadratic formula.

	Don't know	Shaky	Got it
I can solve a quadratic equation by factorising.	☐	☐	☐
I can complete the square.	☐	☐	☐
I can use the quadratic formula and round the answers.	☐	☐	☐
I can form and solve a quadratic equation from a problem.	☐	☐	☐

Quick checks

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

1. Find the value of $3a^2 - 2b$ when $a = -2$ and $b = 5$.

Answer: _____

☐ I got it right

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

A $x^2 - 2x - 15$ B $x^2 + 2x - 15$ C $x^2 - 15$ D $x^2 - 8x - 15$

Answer: _____

☐ I got it right

3. Solve $(x + 4)/3 = 2x - 7$.

Answer: _____

☐ I got it right

4. Make r the subject of $A = \pi r^2$.

A $r = \sqrt{(A/\pi)}$ **B** $r = A/\pi^2$ **C** $r = \sqrt{A/\pi}$ **D** $r = (A/\pi)^2$

Answer: _____

☐ I got it right

5. Make x the subject of $ax + b = cx + d$.

A $x = (d - b)/(a - c)$ **B** $x = (d + b)/(a + c)$ **C** $x = (b - d)/(a - c)$ **D** $x = d - b - a + c$

Answer: _____

☐ I got it right

6. Write $2/x + 3/(x + 1)$ as a single fraction.

A $(5x + 2)/(x(x + 1))$ **B** $5/(2x + 1)$ **C** $(5x + 1)/(x(x + 1))$ **D** $(2x + 5)/(x(x + 1))$

Answer: _____

☐ I got it right

7. Simplify $(x^2 - 9)/(x^2 + 5x + 6)$.

A $(x - 3)/(x + 2)$ **B** $(x + 3)/(x + 2)$ **C** $-9/(5x + 6)$ **D** $(x - 3)/(x + 3)$

Answer: _____

☐ I got it right

8. Solve $x^2 - x - 12 = 0$.

Answer: _____

☐ I got it right

9. Write $x^2 + 6x + 2$ in the form $(x + a)^2 + b$.

A $(x + 3)^2 - 7$ **B** $(x + 3)^2 + 2$ **C** $(x + 6)^2 - 34$ **D** $(x + 3)^2 - 11$

Answer: _____

☐ I got it right

10. Solve $x^2 + 4x - 1 = 0$, giving answers to 2 decimal places.

Answer: _____

☐ I got it right

11. A rectangle is $(x + 3)$ cm long and x cm wide. Its area is 40 cm^2 . Find x .

Answer: _____

☐ I got it right

Answers

Try every question first, then check.

1. 2

2. A: $x^2 - 2x - 15$

3. 5

4. A: $r = \sqrt{A/\pi}$

5. A: $x = (d - b)/(a - c)$

6. A: $(5x + 2)/(x(x + 1))$

7. A: $(x - 3)/(x + 2)$

8. -3, 4

9. A: $(x + 3)^2 - 7$

10. -4.24, 0.24

11. 5