

Surds

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.

Simplifying and calculating with surds

Simplest form, adding, subtracting, multiplying and expanding.

	Don't know	Shaky	Got it
I can write a surd in its simplest form.	☐	☐	☐
I can add and subtract surds.	☐	☐	☐
I can multiply surds.	☐	☐	☐
I can expand brackets containing surds.	☐	☐	☐

Rationalising the denominator

Removing surds from the bottom of a fraction.

	Don't know	Shaky	Got it
I can rationalise a denominator like $a/\sqrt{b}$.	☐	☐	☐
I can rationalise a denominator like $a/(b - \sqrt{c})$.	☐	☐	☐

Quick checks

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

1. Simplify $\sqrt{75}$.

A $5\sqrt{3}$ B $3\sqrt{5}$ C $25\sqrt{3}$ D $15\sqrt{5}$

Answer: _____ ☐ I got it right

2. Simplify $\sqrt{200} - \sqrt{32}$.

A $6\sqrt{2}$ B $\sqrt{168}$ C $14\sqrt{2}$ D $4\sqrt{2}$

Answer: _____ ☐ I got it right

3. Work out $\sqrt{3} \times \sqrt{12}$.

Answer: _____ ☐ I got it right

4. Expand and simplify $(3 + \sqrt{2})(3 - \sqrt{2})$.

A 7 B $9 - \sqrt{2}$ C 11 D $7 + 6\sqrt{2}$

Answer: _____ ☐ I got it right

5. Rationalise $10/\sqrt{5}$.

A $2\sqrt{5}$ B $10\sqrt{5}$ C $\sqrt{5}/2$ D $5\sqrt{2}$

Answer: _____ ☐ I got it right

6. Rationalise $2/(\sqrt{3} - 1)$.

A $\sqrt{3} + 1$ B $\sqrt{3} - 1$ C $2\sqrt{3} + 2$ D $(\sqrt{3} + 1)/2$

Answer: _____ ☐ I got it right

Answers

Try every question first, then check.

1. A: $5\sqrt{3}$

2. A: $6\sqrt{2}$

3. 6

4. A: 7

5. A: $2\sqrt{5}$

6. A: $\sqrt{3} + 1$