# Rationalising the denominator

Exit ticket ANSWERS Name _____

1. What do you multiply $\frac{5}{\sqrt{3}}$ by to rationalise the denominator?

$\frac{\sqrt{3}}{\sqrt{3}}$

2. Rationalise the denominator. $\frac{3}{\sqrt{5}}$

$\frac{3\sqrt{5}}{5}$

3. Rationalise the denominator and simplify. $\frac{18}{\sqrt{3}}$

$6\sqrt{3}$

The Maths Habit


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# *Exit ticket* Rationalising the denominator



**1** **What do you multiply $\frac{5}{\sqrt{3}}$ by to rationalise the denominator?**

$\frac{\sqrt{3}}{\sqrt{3}}$

**TESTS** Choosing what to multiply by

**LOOK FOR**

$\frac{3}{3}$ multiplies by 1 but leaves $\sqrt{3}$ in the denominator

$\sqrt{3}$ only the numerator multiplied: the value changes

**FIX IT**

What do you multiply $\frac{4}{\sqrt{7}}$ by to rationalise the denominator? $\frac{\sqrt{7}}{\sqrt{7}}$

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**2** **Rationalise the denominator. $\frac{3}{\sqrt{5}}$**

$\frac{3\sqrt{5}}{5}$

**TESTS** Multiplying the numerator and the denominator by the root

**LOOK FOR**

$3\sqrt{5}$ the denominator $\sqrt{5} \times \sqrt{5} = 5$ left out

$\frac{3\sqrt{5}}{25}$ $\sqrt{5} \times \sqrt{5}$ worked out as 25

**FIX IT**

Rationalise the denominator. $\frac{2}{\sqrt{7}}$ $\frac{2\sqrt{7}}{7}$

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**3** **Rationalise the denominator and simplify. $\frac{18}{\sqrt{3}}$**

$6\sqrt{3}$

**TESTS** Rationalising, then simplifying

**LOOK FOR**

$6$ treated $\sqrt{3}$ as 3

$\frac{18\sqrt{3}}{3}$ right, but not simplified: $18 \div 3 = 6$

**FIX IT**

Rationalise the denominator and simplify. $\frac{20}{\sqrt{5}}$ $4\sqrt{5}$