

Rationalising the Denominator *fluency*

ANSWERS



Rationalise the denominator. Simplify where possible.

1 $\frac{1}{\sqrt{3}}$

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

2 $\frac{2}{\sqrt{5}}$

$\frac{2\sqrt{5}}{5}$

3 $\frac{5}{\sqrt{7}}$

$\frac{5\sqrt{7}}{7}$

4 $\frac{3}{\sqrt{2}}$

$\frac{3\sqrt{2}}{2}$

5 $\frac{4}{\sqrt{11}}$

$\frac{4\sqrt{11}}{11}$

6 $\frac{1}{\sqrt{10}}$

$\frac{\sqrt{10}}{10}$



Rationalise the denominator

7 $\frac{6}{\sqrt{2}}$

$3\sqrt{2}$

8 $\frac{10}{\sqrt{5}}$

$2\sqrt{5}$

9 $\frac{12}{\sqrt{3}}$

$4\sqrt{3}$

10 $\frac{15}{\sqrt{6}}$

$\frac{5\sqrt{6}}{2}$

11 $\frac{14}{\sqrt{7}}$

$2\sqrt{7}$

12 $\frac{9}{\sqrt{12}}$

$\frac{3\sqrt{3}}{2}$



Rationalise the denominator

13 $\frac{\sqrt{2}}{\sqrt{3}}$

$\frac{\sqrt{6}}{3}$

14 $\frac{3}{2\sqrt{3}}$

$\frac{\sqrt{3}}{2}$

15 $\frac{5}{3\sqrt{5}}$

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

16 $\frac{2+\sqrt{3}}{\sqrt{3}}$

$\frac{3+2\sqrt{3}}{3}$

17 $\frac{\sqrt{5}-1}{\sqrt{5}}$

$\frac{5-\sqrt{5}}{5}$

18 $\frac{\sqrt{10}}{2\sqrt{5}}$

$\frac{\sqrt{2}}{2}$



Rationalise the denominator

19 $\frac{1}{\sqrt{2}+1}$

$\sqrt{2}-1$

20 $\frac{1}{3-\sqrt{2}}$

$\frac{3+\sqrt{2}}{7}$

21 $\frac{2}{\sqrt{5}-1}$

$\frac{1+\sqrt{5}}{2}$

22 $\frac{4}{3+\sqrt{5}}$

$3-\sqrt{5}$

23 $\frac{6}{\sqrt{7}-2}$

$4+2\sqrt{7}$

24 $\frac{1}{2+\frac{1}{\sqrt{3}}}$

$2-\sqrt{3}$



Rationalise the denominator

25 $\frac{1+\sqrt{2}}{\sqrt{2}-1}$

$3+2\sqrt{2}$

26 $\frac{3-\sqrt{5}}{3+\sqrt{5}}$

$\frac{7-3\sqrt{5}}{2}$

27 $\frac{\sqrt{3}}{\sqrt{3}+1}$

$\frac{3-\sqrt{3}}{2}$

28 $\frac{2+\sqrt{3}}{2-\sqrt{3}}$

$7+4\sqrt{3}$

29 $\frac{5}{\sqrt{7}+\sqrt{2}}$

$\sqrt{7}-\sqrt{2}$

30 $\frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}}$

$4+\sqrt{15}$