Rationalising the Denominator

ANSWERS

1

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

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

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

2

Rationalise the denominator. $\frac{1}{\sqrt{3}}$

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

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

3

Rationalise the denominator. $\frac{3}{\sqrt{7}}$

$\frac{3}{\sqrt{7}} \times \frac{\sqrt{7}}{\sqrt{7}} = \frac{3\sqrt{7}}{7}$

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

4

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

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

5

Rationalise the denominator. $\frac{4}{\sqrt{2}}$

$\frac{4}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{4\sqrt{2}}{2}$

$= 2\sqrt{2}$

Answer $2\sqrt{2}$

6

Rationalise the denominator. $\frac{15}{\sqrt{5}}$

$\frac{15}{\sqrt{5}} \times \frac{\sqrt{5}}{\sqrt{5}} = \frac{15\sqrt{5}}{5}$

$= 3\sqrt{5}$

Answer $3\sqrt{5}$

7

Rationalise the denominator. $\frac{6}{\sqrt{3}}$

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

$= 2\sqrt{3}$

Answer $2\sqrt{3}$

8

Write $\frac{22}{\sqrt{11}}$ with a rational denominator.

Answer $2\sqrt{11}$

Rationalising the Denominator *further practice*

ANSWERS

9

Rationalise the denominator. Simplify your answer if you can.

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

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

10

Rationalise the denominator. Simplify your answer if you can.

$\frac{8}{\sqrt{2}}$

Answer $4\sqrt{2}$

11

Rationalise the denominator. Simplify your answer if you can.

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

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

12

Rationalise the denominator. Simplify your answer if you can.

$\frac{20}{\sqrt{5}}$

Answer $4\sqrt{5}$

13

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

Answer $\frac{\sqrt{10}}{2}$

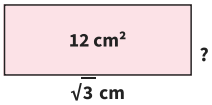
14

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

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

15

A rectangle has an area of 12 cm². Its length is $\sqrt{3}$ cm. Find its width. Give your answer in the form $a\sqrt{3}$.



Answer $4\sqrt{3}$ cm

16

Leo says $\frac{10}{\sqrt{2}} = 5$. What has Leo done wrong? Find the right answer.

Answer Treated $\sqrt{2}$ as 2: $5\sqrt{2}$