Rationalising the Denominator

SCAN ME — REVISE THIS TOPIC

CHECK YOUR ANSWERS — SCAN ME

For the entire booklet

1 Show that $\frac{10}{\sqrt{5}}$ can be written in the form $a\sqrt{b}$ where a and b are integers.

[2 marks]

2 Show that $\frac{18}{\sqrt{6}}$ can be written in the form $a\sqrt{b}$ where a and b are integers.

[2 marks]

3 Show that $\frac{70}{\sqrt{2}}$ can be written in the form $a\sqrt{b}$ where a and b are integers.

[2 marks]

4 Show that $\frac{20}{\sqrt{10}}$ can be written in the form $a\sqrt{b}$ where a and b are integers.

[2 marks]

$\overline{8}$

5 Show that $\frac{24}{\sqrt{15}}$ can be written in the form $\frac{a\sqrt{15}}{b}$ where a and b are integers.
[2 marks]

6 Show that $\frac{35}{4\sqrt{5}}$ can be written in the form $\frac{a\sqrt{5}}{b}$ where a and b are integers.
[2 marks]

7 Show that $\frac{1}{9\sqrt{2}}$ can be written in the form $\frac{\sqrt{2}}{a}$ where a and b are integers.
[2 marks]

8 Show that $\frac{60}{\sqrt{24}}$ can be written in the form $a\sqrt{b}$ where a and b are integers
[2 marks]

9 Show that $\frac{24}{\sqrt{45}}$ can be written in the form $\frac{a\sqrt{5}}{b}$ where a and b are integers.
[2 marks]

10 Show that $\frac{10-\sqrt{32}}{\sqrt{2}}$ can be written in the form $a\sqrt{2} - b$

where a and b are integers.

[3 marks]

11 Show that $\frac{\sqrt{12}+9}{\sqrt{3}}$ can be written in the form $a + b\sqrt{3}$

where a and b are integers.

[3 marks]

12 Show that $\frac{\sqrt{180}+40}{\sqrt{20}}$ can be written in the form $a + b\sqrt{5}$

where a and b are integers.

[3 marks]

$\overline{19}$

Solutions

13 Show that $\left(\frac{1}{\sqrt{2}}\right)^5$ can be written in the form $\frac{\sqrt{2}}{a}$ where a is an integer.

[3 marks]

14 Show that $\frac{24}{\sqrt{6}} + \sqrt{54}$ can be written in the form $k\sqrt{6}$ where k is an integer.

[3 marks]

15 Show that $\frac{42}{\sqrt{18}} + \sqrt{200}$ can be written in the form $k\sqrt{2}$ where k is an integer.

[4 marks]

16 Show that $\frac{21}{\sqrt{3}} + \frac{12}{\sqrt{48}}$ can be written in the form $k\sqrt{3}$ where k is an integer.

[3 marks]

17 Show that $20 \times \sqrt{3\frac{1}{5}}$ can be written in the form $k\sqrt{5}$ where k is an integer.

[4 marks]

18 Show that $\frac{\sqrt{3} + \sqrt{5}}{\sqrt{2}} - \frac{5}{\sqrt{10}}$ can be written in the form $\frac{\sqrt{6}}{a}$ where a is an integer.

[4 marks]

21

Solutions