



# Rationalising the Denominator



SCAN ME

REVISE THIS TOPIC

CHECK YOUR ANSWERS

SCAN ME

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

(Total for Question 1 is 2 marks)

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

(Total for Question 2 is 2 marks)

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

(Total for Question 3 is 2 marks)

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

(Total for Question 4 is 2 marks)



For the entire booklet



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

(Total for Question 5 is 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.

(Total for Question 6 is 2 marks)

7 Show that  $\frac{1}{9\sqrt{2}}$  can be written in the form  $\frac{\sqrt{2}}{a}$  where  $a$  is an integer.

(Total for Question 7 is 2 marks)

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

(Total for Question 8 is 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.

(Total for Question 9 is 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.

(Total for Question 10 is 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.

(Total for Question 11 is 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.

(Total for Question 12 is 3 marks)



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.

(Total for Question 13 is 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.

(Total for Question 14 is 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.

(Total for Question 15 is 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.

(Total for Question 16 is 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.

(Total for Question 17 is 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.

(Total for Question 18 is 4 marks)



19 Show that  $\frac{1}{3-\sqrt{2}}$  can be written in the form  $\frac{a+\sqrt{2}}{b}$  where  $a$  and  $b$  are integers.

(Total for Question 19 is 3 marks)

20 Show that  $\frac{7}{2+\sqrt{3}}$  can be written in the form  $a-b\sqrt{3}$  where  $a$  and  $b$  are integers.

(Total for Question 20 is 3 marks)

21 Show that  $\frac{\sqrt{2}}{\sqrt{6}-2}$  can be written in the form  $a\sqrt{3}+b\sqrt{2}$  where  $a$  and  $b$  are integers.

(Total for Question 21 is 3 marks)



22 Show that  $\frac{\sqrt{5}}{3-2\sqrt{2}}$  can be written in the form  $a\sqrt{5} + b\sqrt{10}$  where  $a$  and  $b$  are integers.

(Total for Question 22 is 4 marks)

23 Show that  $\frac{\sqrt{45} + \sqrt{5}}{3 + \sqrt{10}}$  can be written in the form  $a\sqrt{2} - b\sqrt{5}$  where  $a$  and  $b$  are integers.

(Total for Question 23 is 4 marks)

24 Show that  $\frac{8 - \sqrt{12}}{5 - \sqrt{3}}$  can be written in the form  $\frac{a - \sqrt{3}}{b}$  where  $a$  and  $b$  are integers.

(Total for Question 24 is 4 marks)

