Rationalising the Denominator



REVISE THIS TOPIC





For the entire booklet

1	Show that	$\frac{10}{\sqrt{5}}$	can be writter	n in the form	$a\sqrt{b}$	where a and b are int	egers. [2 marks]
2	Show that	$\frac{18}{\sqrt{6}}$	can be writter	n in the form	$a\sqrt{b}$	where a and b are into	egers. [2 marks]
}	Show that	$\frac{70}{\sqrt{2}}$	can be writter	n in the form	$a\sqrt{b}$	where a and b are inte	egers. [2 marks]

Show that $\frac{20}{\sqrt{10}}$ can be written in the form $a\sqrt{b}$ where a and b are integers. [2 marks]



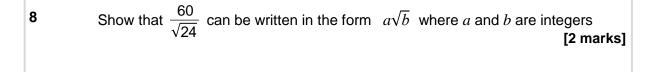








5	Show that	$\frac{24}{\sqrt{15}}$	can be v	vritten in	the form	$\frac{a\sqrt{15}}{b}$	where a and b are integral $f I$	egers. [2 marks]
6	Show that	$\frac{35}{4\sqrt{5}}$	can be v	vritten in	the form	$\frac{a\sqrt{5}}{b}$	where a and b are integral b	egers. [2 marks]
7	Show that	<u>1</u> 9√2	can be v	vritten in	the form	$\frac{\sqrt{2}}{a}$	where a and b are integral b	gers. [2 marks]



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 <i>a</i> and <i>b</i> 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]



Solutions

Turn over ▶

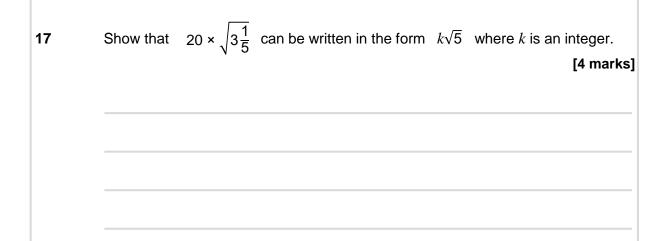


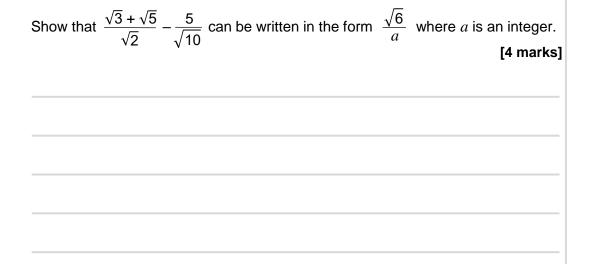
13	Show that	$\left(\frac{1}{\sqrt{2}}\right)^5$ ca	n be written in	the form $\frac{\sqrt{2}}{a}$	where a is an	integer. [3 marks]
14	Show that	$\frac{24}{\sqrt{6}} + \sqrt{54}$	can be writte	en in the form	k√6 where k is	an integer. [3 marks]
15	Show that	$\frac{42}{\sqrt{18}} + \sqrt{20}$	o can be writ	ten in the forr	m $k\sqrt{2}$ where k	is an integer. [4 marks]





16	Show that	$\frac{21}{\sqrt{3}} + \frac{12}{\sqrt{48}}$	can be written in the form	<i>k</i> √3	where k is an integer. [3 marks]







18