Surds

Question Paper

Course	Edexcel IGCSE Maths
Section	1. Numbers & the Number System
Topic	Surds
Difficulty	Medium

Time allowed: 30

Score: /20

Percentage: /100

Question 1a

Show that $\frac{12}{\sqrt{3}}$ can be rewritten as $4\sqrt{3}$

[2 marks]

Question 1b

Show that $\left(\sqrt{2}+\sqrt{8}\right)^2 = 18$

[2 marks]

Question 2

Show that $\left(\sqrt{12}-\sqrt{3}\right)^2 = 3$

[2 marks]

Question 3

Show that $\frac{10}{\sqrt{5}}$ can be rewritten as $2\sqrt{5}$

[2 marks]

Question 4

Show that $\frac{\sqrt{12}}{\sqrt{3+2}}$

can be written in the form $a\sqrt{b}$ where a is a simplified fraction and b is an integer.

[2 marks]

Question 5

Show that $(6+2\sqrt{12})^2 = 12(7+4\sqrt{3})$

Show each stage of your working.

[3 marks]

Question 6

Show that $\frac{\sqrt{20}+\sqrt{80}}{\sqrt{3}}$ can be expressed in the form $\sqrt{a}$ where a is an integer.

Show your working clearly.

[3 marks]

Question 7

Show that $\sqrt{45} + \sqrt{20} = 5\sqrt{5}$
Show your working clearly.

[2 marks]

Question 8

Without using a calculator, show that $\sqrt{20} = 2\sqrt{5}$.

[2 marks]