

Surds Past Paper Questions Edexcel – None Calculator

1.

(a) Express $5\sqrt{27}$ in the form $n\sqrt{3}$, where n is a positive integer.

.....
(2)

(b) Rationalise the denominator of $\frac{21}{\sqrt{3}}$

.....
(2)

2.

Rationalise the denominator of $\frac{12}{\sqrt{6}}$

Give your answer in its simplest form.

.....
(2)

3.

Write $(5 - \sqrt{5})^2$ in the form $a + b\sqrt{5}$, where a and b are integers.

4.

$\frac{\sqrt{3}}{5} + \frac{2}{\sqrt{3}} = a\sqrt{3}$, where a is a fraction.

Find the value of a .

5.

(a) Rationalise the denominator of $\frac{15}{\sqrt{5}}$

.....
(2)

$(1 + \sqrt{3})^2$ can be written in the form $a + b\sqrt{3}$, where a and b are integers.

(b) Work out the value of a and the value of b .

$a =$

$b =$

(2)

6.

Work out the value of $\frac{\sqrt{5} + 1}{2} \times \frac{\sqrt{5} - 1}{2}$

Give your answer in its simplest form.

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7.

Rationalise the denominator of $\frac{(6 - \sqrt{5})(6 + \sqrt{5})}{\sqrt{31}}$

Give your answer in its simplest form.

8.

i Rationalise the denominator of $\frac{(4 + \sqrt{2})(4 - \sqrt{2})}{\sqrt{7}}$

Give your answer in its simplest form.