



Surds Mixed Exam Questions

Attempt these exam questions independently showing full and clear solutions. Check each answer as you go against the exam board mark schemes provided.

1. Edexcel C1, Jan 2013, Q3

(i) Express

$$(5 - \sqrt{8})(1 + \sqrt{2})$$

in the form $a + b\sqrt{2}$, where a and b are integers.

(3)

(ii) Express

$$\sqrt{80} + \frac{30}{\sqrt{5}}$$

in the form $c\sqrt{5}$, where c is an integer.

(3)

2. Edexcel C1 Jan 2006, Q5

(a) Write $\sqrt{45}$ in the form $a\sqrt{5}$, where a is an integer.

(1)

(b) Express $\frac{2(3+\sqrt{5})}{(3-\sqrt{5})}$ in the form $b + c\sqrt{5}$, where b and c are integers.

(5)

3. Edexcel C1 Jan 2012, Q2

(a) Simplify

$$\sqrt{32} + \sqrt{18}$$

giving your answer in the form $a\sqrt{2}$, where a is an integer.

(2)

(b) Simplify

$$\frac{\sqrt{32} + \sqrt{18}}{3 + \sqrt{2}}$$

giving your answer in the form $b\sqrt{2} + c$, where b and c are integers.

(4)

4. Edexcel C1 Jun 2012, Q3

Show that $\frac{2}{\sqrt{12} - \sqrt{8}}$ can be written in the form $\sqrt{a} + \sqrt{b}$, where a and b are integers.

(5)