

Simplifying surds

Grade 7 | Higher | 10 questions, 26 marks

GCSE Maths topic practice



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Name: _____ **Date:** _____ **Score:** _____ / 26

1 Write $\sqrt{50}$ in the form $a\sqrt{2}$, where a is an integer. (1 mark)

Answer _____

2 Write $\sqrt{6} \times \sqrt{3}$ in the form $a\sqrt{2}$, where a is an integer. (2 marks)

Answer _____

3 Work out $\sqrt{72} \div \sqrt{2}$. (2 marks)

Answer _____

4 Show that $\sqrt{12} + \sqrt{27}$ can be written as $5\sqrt{3}$. (2 marks)

Answer _____

5 Express $\sqrt{80} + \sqrt{45}$ in the form $k\sqrt{5}$, where k is an integer. (3 marks)

Answer _____

6 Write $8\sqrt{3}$ in the form $\sqrt{n}$, where n is an integer. (2 marks)

Answer _____

7 Expand and simplify $(3 + \sqrt{2})(1 + \sqrt{2})$. Give your answer in the form $a + b\sqrt{2}$. (3 marks)

Answer _____

8

Show that $\sqrt{50} + \frac{18}{\sqrt{2}} = 14\sqrt{2}$

(5 marks)

Answer _____

9

A right-angled triangle has hypotenuse 10 cm. One of the other sides is $2\sqrt{7}$ cm. Work out the length of the third side. Give your answer in the form $k\sqrt{2}$, where k is an integer.

(3 marks)

Answer _____

10

A rectangle has length $2\sqrt{6}$ cm and width $3\sqrt{2}$ cm. Work out the area of the rectangle. Give your answer in the form $k\sqrt{3}$.

(3 marks)

Answer _____

End of questions | Total 26 marks