HIGHER

7.1 Surds: 10-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

Surds: Fluency and Exam Drill

Original content written for Revision Library.

This is a non-calculator practice set on surds. Work through the fluency questions first to secure the core skills of simplifying, combining and rationalising surds, then attempt the exam-style questions, finishing with two grade 9 stretch questions. Show all your working clearly, since method marks are available even when a final answer is not fully correct. Give all answers in their simplest surd form unless told otherwise.

1 Simplify $7\sqrt{5} - 2\sqrt{5}$.

(Total for Question 1 is 1 mark)

---

2 Work out $\sqrt{3} * \sqrt{12}$.

(Total for Question 2 is 1 mark)

---

3 Rationalise the denominator of $1/\sqrt{5}$, giving your answer in its simplest form.

(Total for Question 3 is 2 marks)

© Revision Library | revisionlibrary.co.uk

4 Show that $(6 + \sqrt{7})(6 - \sqrt{7}) = 29$.

(Total for Question 4 is 2 marks)

---

5 A square has an area of 45 cm^2. Find the length of one side of the square, giving your answer in simplest surd form.

(Total for Question 5 is 2 marks)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 7.1 Surds: 10-minute Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

$5\sqrt{5}$ oe cao	**B1**

Answer: $5\sqrt{5}$

Question 2

6 cao	**B1**

Answer: 6

Question 3

multiplies numerator and denominator by $\sqrt{5}$	**M1**
$\sqrt{5}/5$ oe cao	**A1**

Answer: $\sqrt{5}/5$

Question 4

correct expansion $36 - 6\sqrt{7} + 6\sqrt{7} - 7$ (or $36 - 7$)	**M1**
cso - $36 - 7 = 29$ shown	**A1**

Answer: 29 (given)

Question 5

side = $\sqrt{45}$ seen	**M1**
$3\sqrt{5}$ cm cao	**A1**

Answer: $3\sqrt{5}$ cm

© Revision Library | revisionlibrary.co.uk