1.2 Rationalising Denominators and Surd Equations: 10-minute Pack

AQA 8365 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Rationalise the denominator in each expression, simplifying fully.

(a) $4 / (3 + \sqrt{2})$ **(3)**

(b) $6 / (\sqrt{5} - 2)$ **(3)**

(Total for Question 1 is 6 marks)

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2 Circle the letter next to the correct answer for each question. No working is required.

(a) Which of these is equal to $1/\sqrt{7}$ after rationalising the denominator? **(1)**

- ☐ A) $\sqrt{7}$
- ☐ B) $\sqrt{7}/7$
- ☐ C) $7\sqrt{7}$
- ☐ D) $1/7$

(b) Which of these is the simplified form of $\sqrt{45}$? **(1)**

- ☐ A) $9\sqrt{5}$
- ☐ B) $3\sqrt{5}$
- ☐ C) $5\sqrt{3}$
- ☐ D) $15\sqrt{3}$

(c) Which value of x satisfies $\sqrt{x} = 6$? **(1)**

- ☐ A) 3
- ☐ B) 12
- ☐ C) 36
- ☐ D) 6

(Total for Question 2 is 3 marks)

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Mark scheme · 1.2 Rationalising Denominators and Surd Equations: 10-minute Pack

Question 1

(a) multiplies numerator and denominator by the conjugate $(3 - \sqrt{2})$	**M1**
(a) denominator simplifies to 7	**A1**
(a) $(12 - 4\sqrt{2})/7$ oe cao	**A1**
(a) Answer: $(12 - 4\sqrt{2})/7$	
(b) multiplies numerator and denominator by the conjugate $(\sqrt{5} + 2)$	**M1**
(b) denominator simplifies to 1	**A1**
(b) $6\sqrt{5} + 12$ oe cao	**A1**
(b) Answer: $6\sqrt{5} + 12$	

Question 2

(a) B	**B1**
(a) Answer: B	
(b) B	**B1**
(b) Answer: B	
(c) C	**B1**
(c) Answer: C	

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