

Surds

Difficulty : Easy

Question Paper 1

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|------------|-----------------------|
| Level | AS & A Level |
| Subject | Maths - Pure |
| Exam Board | Edexcel |
| Topic | Algebraic Expressions |
| Sub-Topic | Surds |
| Difficulty | Easy |
| Booklet | Question Paper 1 |

Time allowed: 22 minutes

Score: /18

Percentage: /100

Grade Boundaries:

| A* | A | B | C | D | E | U |
|------|-----|-----|-----|-----|-----|------|
| >76% | 61% | 52% | 42% | 33% | 23% | <23% |

Question 1

(a) Express $\sqrt{108}$ in the form $a\sqrt{3}$, where a is an integer. (1)

(b) Express $(2 - \sqrt{3})^2$ in the form $b + c\sqrt{3}$, where b and c are integers to be found. (3)

(Total 4 marks)

Question 2

Simplify $(3 + \sqrt{5})(3 - \sqrt{5})$. (2)

(Total 2 marks)

Question 3

Expand and simplify $(\sqrt{7} + 2)(\sqrt{7} - 2)$. (2)

(Total 2 marks)

Question 4

Simplify

(a) $(3\sqrt{7})^2$ (1)

(b) $(8+\sqrt{5})(2-\sqrt{5})$ (3)

(Total 4 marks)

Question 5

Write

$$\sqrt{75}-\sqrt{27}$$

in the form $k\sqrt{x}$, where k and x are integers. (2)

(Total 2 marks)

Question 6

(a) Express $\sqrt{80}$ in the form $a\sqrt{5}$, where a is an integer. (1)

(b) Express $(4-\sqrt{5})^2$ in the form $b+c\sqrt{5}$, where b and c are integers. (3)

(Total 4 marks)