
GCSE Mathematics

Surds Practice

Mark Scheme - Higher, Grade 6-8

M = method mark, A = accuracy mark (dependent on the preceding M mark), B = independent mark.

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Edexcel-style questions

Q1 Grade 6 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$\sqrt{25 \times 2}$	M1
(a)	$5\sqrt{2}$	A1

Q2 Grade 6 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$2\sqrt{2} + 3\sqrt{2}$	M1
(a)	$5\sqrt{2}$	A1

Q3 Grade 7 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$\sqrt{36}$	M1
(a)	6	A1

Q4 Grade 7 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{5\sqrt{5}}{5}$	M1
(a)	$\sqrt{5}$	A1

Q5 Grade 8 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$(2 + \sqrt{3})(2 - \sqrt{3}) = 1$	M1
(a)	$2 - \sqrt{3}$	A1

AQA-style questions

Q6 Grade 6 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	$\sqrt{36 \times 2}$	M1
(a)	$6\sqrt{2}$	A1

Q7 Grade 6 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	$3\sqrt{3} + 2\sqrt{3}$	M1
(a)	$5\sqrt{3}$	A1

Q8 Grade 7 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	$\sqrt{48}$	M1
(a)	$4\sqrt{3}$	A1

Q9 Grade 7 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{6\sqrt{3}}{3}$	M1
(a)	$2\sqrt{3}$	A1

Q10 Grade 8 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	$(3 - \sqrt{2})(3 + \sqrt{2}) = 7$	M1
(a)	$\frac{3 + \sqrt{2}}{7}$	A1

OCR-style questions

Q11 Grade 6 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	$\sqrt{9 \times 5}$	M1
(a)	$3\sqrt{5}$	A1

Q12 Grade 6 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	$4\sqrt{5} - 2\sqrt{5}$	M1
(a)	$2\sqrt{5}$	A1

Q13 Grade 7 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	$3\sqrt{2} + \sqrt{2} \times \sqrt{2}$	M1
(a)	$3\sqrt{2} + 2$	A1

Q14 Grade 7 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{4\sqrt{2}}{2}$	M1
(a)	$2\sqrt{2}$	A1

Q15 Grade 8 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	$(1 + \sqrt{5})(1 - \sqrt{5}) = -4$	M1
(a)	$\sqrt{5} - 1$	A1

Teachably-style questions

Q16 Grade 6 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$\sqrt{49 \times 2}$	M1
(a)	$7\sqrt{2}$	A1

Q17 Grade 6 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$4\sqrt{2} - 2\sqrt{2}$	M1
(a)	$2\sqrt{2}$	A1

Q18 Grade 7 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$\sqrt{5} \times \sqrt{5} - 2\sqrt{5}$	M1
(a)	$5 - 2\sqrt{5}$	A1

Q19 Grade 7 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{10\sqrt{5}}{5}$	M1
(a)	$2\sqrt{5}$	A1

Q20 Grade 8 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$(\sqrt{7} - 2)(\sqrt{7} + 2) = 3$	M1
(a)	$\frac{2\sqrt{7} + 4}{3}$	A1

END OF PAPER

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