
GCSE Mathematics

Area of a Triangle

Mark Scheme - Higher Tier | Grades 6-7

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: 3

Part	Mark scheme	Marks
(a)	$\text{Area} = 0.5 \times 8 \times 10 \times \sin 50^\circ$	M1
(a)	Area = 30.64...	M1
(a)	Area = 30.6 cm ² (3 s.f.)	A1

Q2 Grade 7 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	$24 = 0.5 \times 8 \times AC \times \sin 45^\circ$	M1
(a)	$AC = 48 \div (8 \times \sin 45^\circ)$	M1
(a)	AC = 8.49 cm (3 s.f.)	A1

Q3 Grade 7 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	$20 = 0.5 \times 7 \times 8 \times \sin A$	M1
(a)	$\sin A = 40 \div 56 = 0.7143$	M1
(a)	A = 45.6° (1 d.p.)	A1

Q4 Grade 7 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	$\text{Area} = 0.5 \times 4.2 \times 3.5 \times \sin 62^\circ$	M1
(a)	Area = 6.489...	M1
(a)	Area = 6.49 m ² (3 s.f.)	A1

Q5 Grade 7 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	$0.5 \times 6 \times 8 \times \sin 50^\circ + 0.5 \times 7 \times 9 \times \sin 60^\circ$	M1
(a)	18.39... + 27.28...	M1
(a)	45.7 cm ² (3 s.f.)	A1

AQA-style questions

Q6 Grade 6 AQA style**Total: 3**

Part	Mark scheme	Marks
(a)	Area = $0.5 \times 7 \times 12 \times \sin 65^\circ$	M1
(a)	Area = 38.06...	M1
(a)	Area = 38.1 cm^2 (3 s.f.)	A1

Q7 Grade 7 AQA style**Total: 3**

Part	Mark scheme	Marks
(a)	$30 = 0.5 \times 10 \times AC \times \sin 60^\circ$	M1
(a)	$AC = 60 \div (10 \times \sin 60^\circ)$	M1
(a)	$AC = 6.93 \text{ cm}$ (3 s.f.)	A1

Q8 Grade 7 AQA style**Total: 3**

Part	Mark scheme	Marks
(a)	$35 = 0.5 \times 10 \times 9 \times \sin A$	M1
(a)	$\sin A = 70 \div 90 = 0.7778$	M1
(a)	$A = 51.1^\circ$ (1 d.p.)	A1

Q9 Grade 7 AQA style**Total: 3**

Part	Mark scheme	Marks
(a)	Area = $0.5 \times 12 \times 9 \times \sin 48^\circ$	M1
(a)	Area = 40.13...	M1
(a)	Area = 40.1 m^2 (3 s.f.)	A1

Q10 Grade 7 AQA style**Total: 3**

Part	Mark scheme	Marks
(a)	$0.5 \times 5 \times 9 \times \sin 55^\circ + 0.5 \times 8 \times 6 \times \sin 48^\circ$	M1
(a)	18.43... + 17.84...	M1
(a)	36.3 cm^2 (3 s.f.)	A1

OCR-style questions

Q11 Grade 6 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	$\text{Area} = 0.5 \times 9 \times 11 \times \sin 40^\circ$	M1
(a)	Area = 31.82...	M1
(a)	Area = 31.8 cm ² (3 s.f.)	A1

Q12 Grade 7 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	$18 = 0.5 \times 6 \times AC \times \sin 55^\circ$	M1
(a)	$AC = 36 \div (6 \times \sin 55^\circ)$	M1
(a)	AC = 7.32 cm (3 s.f.)	A1

Q13 Grade 7 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	$27 = 0.5 \times 6 \times 12 \times \sin A$	M1
(a)	$\sin A = 54 \div 72 = 0.75$	M1
(a)	A = 48.6° (1 d.p.)	A1

Q14 Grade 7 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	$\text{Area} = 0.5 \times 65 \times 48 \times \sin 72^\circ$	M1
(a)	Area = 1483.6...	M1
(a)	Area = 1480 m ² (3 s.f.)	A1

Q15 Grade 7 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	$0.5 \times 10 \times 7 \times \sin 65^\circ + 0.5 \times 6 \times 9 \times \sin 40^\circ$	M1
(a)	31.72... + 17.36...	M1
(a)	49.1 cm ² (3 s.f.)	A1

Teachably-style questions

Q16 Grade 6 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	$\text{Area} = 0.5 \times 6 \times 14 \times \sin 75^\circ$	M1
(a)	Area = 40.57...	M1
(a)	Area = 40.6 cm ² (3 s.f.)	A1

Q17 Grade 7 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	$45 = 0.5 \times 9 \times AC \times \sin 70^\circ$	M1
(a)	$AC = 90 \div (9 \times \sin 70^\circ)$	M1
(a)	AC = 10.6 cm (3 s.f.)	A1

Q18 Grade 7 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	$42 = 0.5 \times 11 \times 10 \times \sin A$	M1
(a)	$\sin A = 84 \div 110 = 0.7636$	M1
(a)	A = 49.8° (1 d.p.)	A1

Q19 Grade 7 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	$\text{Area} = 0.5 \times 30 \times 22 \times \sin 85^\circ$	M1
(a)	Area = 328.7...	M1
(a)	Area = 329 m ² (3 s.f.)	A1

Q20 Grade 7 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	$0.5 \times 8 \times 11 \times \sin 70^\circ + 0.5 \times 9 \times 5 \times \sin 58^\circ$	M1
(a)	41.35... + 19.08...	M1
(a)	60.4 cm ² (3 s.f.)	A1

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