
GCSE Mathematics

Right-Angled Trigonometry (SOHCAHTOA)

Mark Scheme - Grades 5-7

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

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Edexcel-style questions

Q1 Grade 5 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	$\sin 40^\circ = x / 12$	M1
(a)	$x = 12 \times \sin 40^\circ$	M1
(a)	$x = 7.71 \text{ cm (3 s.f.)}$	A1

Q2 Grade 5 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	$\cos 50^\circ = x / 10$	M1
(a)	$x = 10 \times \cos 50^\circ$	M1
(a)	$x = 6.43 \text{ cm (3 s.f.)}$	A1

Q3 Grade 6 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	$\tan 34^\circ = x / 9$	M1
(a)	$x = 9 \times \tan 34^\circ$	M1
(a)	$x = 6.07 \text{ cm (3 s.f.)}$	A1

Q4 Grade 6 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	$\sin \theta = 7 / 15$	M1
(a)	$\theta = \sin^{-1}(7 / 15)$	M1
(a)	$\theta = 27.8^\circ \text{ (1 d.p.)}$	A1

Q5 Grade 7 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	$\cos \theta = 2.1 / 6.5$	M1
(a)	$\theta = \cos^{-1}(2.1 / 6.5)$	M1
(a)	$\theta = 71.2^\circ \text{ (1 d.p.)}$	A1

AQA-style questions**Q6** Grade 5 AQA style**Total: 3**

Part	Mark scheme	Marks
(a)	$\sin 55^\circ = x / 8$	M1
(a)	$x = 8 \times \sin 55^\circ$	M1
(a)	$x = 6.55 \text{ cm (3 s.f.)}$	A1

Q7 Grade 5 AQA style**Total: 3**

Part	Mark scheme	Marks
(a)	$\cos 35^\circ = x / 14$	M1
(a)	$x = 14 \times \cos 35^\circ$	M1
(a)	$x = 11.5 \text{ cm (3 s.f.)}$	A1

Q8 Grade 6 AQA style**Total: 3**

Part	Mark scheme	Marks
(a)	$\tan 48^\circ = x / 11$	M1
(a)	$x = 11 \times \tan 48^\circ$	M1
(a)	$x = 12.2 \text{ cm (3 s.f.)}$	A1

Q9 Grade 6 AQA style**Total: 3**

Part	Mark scheme	Marks
(a)	$\cos \theta = 6 / 13$	M1
(a)	$\theta = \cos^{-1}(6 / 13)$	M1
(a)	$\theta = 62.5^\circ \text{ (1 d.p.)}$	A1

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

Part	Mark scheme	Marks
(a)	$\tan 38^\circ = h / 25$	M1
(a)	$h = 25 \times \tan 38^\circ$	M1
(a)	$h = 19.5 \text{ m (3 s.f.)}$	A1

OCR-style questions

Q11 Grade 5 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	$\sin 28^\circ = x / 15$	M1
(a)	$x = 15 \times \sin 28^\circ$	M1
(a)	$x = 7.04 \text{ cm (3 s.f.)}$	A1

Q12 Grade 5 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	$\cos 42^\circ = x / 18$	M1
(a)	$x = 18 \times \cos 42^\circ$	M1
(a)	$x = 13.4 \text{ cm (3 s.f.)}$	A1

Q13 Grade 6 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	$\tan 59^\circ = x / 7$	M1
(a)	$x = 7 \times \tan 59^\circ$	M1
(a)	$x = 11.6 \text{ cm (3 s.f.)}$	A1

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

Part	Mark scheme	Marks
(a)	$\tan \theta = 8 / 5$	M1
(a)	$\theta = \tan^{-1}(8 / 5)$	M1
(a)	$\theta = 58.0^\circ \text{ (1 d.p.)}$	A1

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

Part	Mark scheme	Marks
(a)	$\sin 52^\circ = h / 45$	M1
(a)	$h = 45 \times \sin 52^\circ$	M1
(a)	$h = 35.5 \text{ m (3 s.f.)}$	A1

Teachably-style questions

Q16 Grade 5 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	$\sin 63^\circ = x / 20$	M1
(a)	$x = 20 \times \sin 63^\circ$	M1
(a)	$x = 17.8 \text{ cm (3 s.f.)}$	A1

Q17 Grade 5 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	$\cos 25^\circ = x / 9$	M1
(a)	$x = 9 \times \cos 25^\circ$	M1
(a)	$x = 8.16 \text{ cm (3 s.f.)}$	A1

Q18 Grade 6 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	$\tan 22^\circ = x / 13$	M1
(a)	$x = 13 \times \tan 22^\circ$	M1
(a)	$x = 5.25 \text{ cm (3 s.f.)}$	A1

Q19 Grade 7 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	$\sin \theta = 10 / 17$	M1
(a)	$\theta = \sin^{-1}(10 / 17)$	M1
(a)	$\theta = 36.0^\circ \text{ (1 d.p.)}$	A1

Q20 Grade 7 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	$\tan \theta = 1.2 / 8$	M1
(a)	$\theta = \tan^{-1}(1.2 / 8)$	M1
(a)	$\theta = 8.5^\circ \text{ (1 d.p.)}$	A1

END OF PAPER

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