
GCSE Mathematics

Bearings

Mark Scheme - GCSE Maths Practice

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

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Edexcel-style questions

Q1 Grade 4 Edexcel style

Total: 1

Part	Mark scheme	Marks
(a)	065°	A1

Q2 Grade 4 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	bearing < 180°, so add 180°: 072 + 180	M1
(a)	252°	A1

Q3 Grade 5 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	bearing of C from A = 040 + 25	M1
(a)	065°	A1

Q4 Grade 5 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	bearing of A from B (back bearing) = 060 + 180 = 240°	M1
(a)	angle ABC is the angle between BA (240°) and BC (140°)	M1
(a)	100°	A1

Q5 Grade 6 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	turning anticlockwise from 050° to 320° is the same as 050 - 320, adding 360° if needed	M1
(a)	50 - 320 + 360 = 90°	A1

AQA-style questions

Q6 Grade 4 AQA style

Total: 1

Part	Mark scheme	Marks
(a)	008°	A1

Q7 Grade 5 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	bearing $\geq 180^\circ$, so subtract 180° : $205 - 180$	M1
(a)	025°	A1

Q8 Grade 5 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	bearing of C from A = $330 + 50$	M1
(a)	020°	A1

Q9 Grade 5 AQA style

Total: 3

Part	Mark scheme	Marks
(a)	bearing of A from B (back bearing) = $150 + 180 = 330^\circ$	M1
(a)	angle ABC is the angle between BA (330°) and BC (040°)	M1
(a)	70°	A1

Q10 Grade 6 AQA style

Total: 4

Part	Mark scheme	Marks
(a)	angle ACB = $230 - 150 = 80^\circ$	M1
(a)	triangle ACB is isosceles ($CA = CB$), so the base angles are equal: angle CAB = angle CBA = $(180 - 80) \div 2 = 50^\circ$	M1
(a)	bearing of C from A (back bearing of 150°) = $150 + 180 = 330^\circ$	M1
(a)	B lies on the anticlockwise side of AC as seen from A, so bearing of B from A = $330 - 50 = 280^\circ$	A1

OCR-style questions

Q11 Grade 4 OCR style

Total: 1

Part	Mark scheme	Marks
(a)	135°	A1

Q12 Grade 4 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	bearing < 180°, so add 180°: 095 + 180	M1
(a)	275°	A1

Q13 Grade 5 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	bearing of C from A = 095 - 40	M1
(a)	055°	A1

Q14 Grade 6 OCR style

Total: 3

Part	Mark scheme	Marks
(a)	bearing of A from B (back bearing) = 200 - 180 = 020°	M1
(a)	angle ABC is the angle between BA (020°) and BC (010°)	M1
(a)	10°	A1

Q15 Grade 6 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	P, Q and R must lie on a single straight line (they are collinear)	B1
(a)	since the hiker keeps walking in exactly the same direction (the same bearing) for both legs, there is no change of direction at Q	A1

Teachably-style questions

Q16 Grade 4 Teachably style

Total: 1

Part	Mark scheme	Marks
(a)	315°	A1

Q17 Grade 5 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	bearing $\geq 180^\circ$, so subtract 180° : $310 - 180$	M1
(a)	130°	A1

Q18 Grade 5 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	bearing of C from A = $015 - 60$	M1
(a)	315°	A1

Q19 Grade 6 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	bearing of A from B (back bearing) = $310 - 180 = 130^\circ$	M1
(a)	angle ABC is the angle between BA (130°) and BC (250°)	M1
(a)	120°	A1

Q20 Grade 6 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	045° and 315° are mirror images of each other about north (045° is 45° clockwise of north, 315° is 45° anticlockwise of north)	B1
(a)	since Q is due east of P, this symmetry means the boat is exactly as far from P as it is from Q, so it lies on the perpendicular bisector of PQ	A1

END OF PAPER

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