
GCSE Mathematics

Cubic & Reciprocal Graphs

Mark Scheme - Higher Tier | Grades 7-8

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

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Edexcel-style questions

Q1 Grade 7 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$(3)^3 - 4(3)$	M1
(a)	$y = 15$	A1

Q2 Grade 7 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$12 \div 4$	M1
(a)	$y = 3$	A1

Q3 Grade 8 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	curve crosses the x-axis three times	M1
(a)	$(-2, 0)$, $(0, 0)$ and $(2, 0)$	A1

Q4 Grade 7 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	curve never touches the x-axis or the y-axis	M1
(a)	$x = 0$ and $y = 0$	A1

Q5 Grade 8 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	curve passes through the origin and increases from bottom-left to top-right	M1
(a)	$y = x^3$	A1

AQA-style questions

Q6 Grade 7 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	$(-2)^3 + 2(-2)$	M1
(a)	$y = -12$	A1

Q7 Grade 7 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	$20 \div (-5)$	M1
(a)	$y = -4$	A1

Q8 Grade 8 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	curve crosses the x-axis three times	M1
(a)	$(-1, 0)$, $(0, 0)$ and $(1, 0)$	A1

Q9 Grade 7 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	curve never touches the x-axis or the y-axis	M1
(a)	$x = 0$ and $y = 0$	A1

Q10 Grade 8 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	curve passes through the origin and decreases from top-left to bottom-right	M1
(a)	$y = -x^3$	A1

OCR-style questions

Q11 Grade 7 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	$(-1)^3 - 5$	M1
(a)	$y = -6$	A1

Q12 Grade 7 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	$18 \div (-2)$	M1
(a)	$y = -9$	A1

Q13 Grade 8 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	curve crosses the x-axis three times	M1
(a)	$(-1, 0)$, $(0, 0)$ and $(2, 0)$	A1

Q14 Grade 7 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	curve never touches the x-axis or the y-axis	M1
(a)	$x = 0$ and $y = 0$	A1

Q15 Grade 8 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	branches lie in the top-right and bottom-left regions	M1
(a)	$y = \frac{1}{x}$	A1

Teachably-style questions

Q16 Grade 7 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$2(-3)^3 - (-3)$	M1
(a)	$y = -51$	A1

Q17 Grade 7 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$24 \div (-8)$	M1
(a)	$y = -3$	A1

Q18 Grade 8 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	curve crosses the x-axis three times	M1
(a)	$(-2, 0)$, $(0, 0)$ and $(1, 0)$	A1

Q19 Grade 7 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	curve never touches the x-axis or the y-axis	M1
(a)	$x = 0$ and $y = 0$	A1

Q20 Grade 8 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	branches lie in the top-left and bottom-right regions	M1
(a)	$y = -\frac{1}{x}$	A1

END OF PAPER

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