

Topic Test 1 Mark Scheme

Coordinates and linear graphs - Higher

Q	Answer	Mark	Comments
1	$y = -3x - 6$	B1	
2	B	B1	
3(a)	(5, 6.5)	B2	B1 (x, 6.5) or (5, y)
3(b)	$\frac{9-4}{10(-0)}$	M1	
	$\frac{1}{2}$	A1	oe
3(c)	$\frac{-1}{\text{their } \frac{1}{2}}$ or -2	M1	oe
	Substitutes their (5, 6.5) into $y = \text{their } -2 \times x + c$ and finds c	M1	
	$y = -2x + 16.5$	A1ft	oe ft their (5, 6.5) and their $\frac{1}{2}$ SC2 $y = \frac{1}{2}x + 4$ oe

Q	Answer	Mark	Comments
4	(Gradient of $AB = \frac{8}{2}$ or 4	B1	
	Substitutes (6, 0) into $y = \text{their } 4 \times x + c$ and finds c or $c = -24$	M1	
	$y = 4x - 24$	A1ft	oe ft their 4 SC2 $y = -\frac{1}{4}x + \frac{3}{2}$ oe
5	(Gradient of $AB = -\frac{3}{5}$	B1	oe
	(Gradient of $CD = \frac{5}{3}$	B1	oe
	their $-\frac{3}{5} \times \text{their } \frac{5}{3} = -1$ and Yes	B1ft	oe ft a correct decision based on whether the product of their gradients is -1

Q	Answer	Mark	Comments
6(a)	Gradient of $AD = \frac{2 - -2}{-3 - -5}$	M1	oe
	Gradient of $BC = \frac{1 - -3}{4 - 2}$	M1	oe
	Both gradients = 2 and opposite sides parallel	A1	oe
6(b)	Gradient of $AB = \frac{-3 - -2}{2 - -5}$ or $-\frac{1}{7}$ or Gradient of $DC = \frac{2 - 1}{-3 - 4}$ or $-\frac{1}{7}$	M1	oe
	Product of any two adjacent lines, with at least one correct shown to be not -1 .	A1ft	ft their gradients if both Ms awarded in (a) and M awarded in (b) and one of the gradients is 2 or $-\frac{1}{7}$