

# Y10 Foundation ANSWERS

## – Linear Graphs

Q1.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	A plotted at (3, 2)	B1	cao	Accept a cross or dot or A written at (3, 2) with or without labelling provided not ambiguous
(b)	(-1, 0)	B1	cao	Could be shown on the diagram

Q2.

PAPER: IMA0_2F					
Question	Working	Answer	Mark	Notes	
(a)		(1, 4)	1	B1 cao	
(b)		cross at (-3, 2)	1	B1 for cross at (-3, 2)	
(c)		$x = 3$	1	B1 cao	

Q3.

PAPER: IMA0_1F					
Question	Working	Answer	Mark	Notes	
(a)		2, 1	1	B1 cao	
(b)		-2, 3	1	B1 cao	
(c)		Point marked	1	B1 for point marked at (-3, -1)	
(d)		Line $x = 3$ drawn	1	B1 for line $x = 3$ drawn	

Q4.

5MB2F November 2016					
Question	Working	Answer	Mark	Notes	Type
(a)(i)		(2, -4)	2	B1 cao	C
(a)(ii)		Point plotted		B1 for point plotted at (-2,3)	C
(b)		$y = x$ drawn	1	B1 for correct line	G

Q5.

Question	Working	Answer	Mark	Notes
(a)		(6, -2)	B1	cao
(b) i		Correct point	B1	cao for point marked at (2, 9)
(b) ii		Yes with reasoning	B1	Yes with correct substitution $4 \times 2 + 1 = 9$ or by drawing correct line on diagram
(c)		Correct line	B1	for drawing line $x = -2$ cao

Q6.

Question	Working	Answer	Mark	Notes
(a)		3 (5) 7 (9) 11, 13	2	B2 for 3, 7, 11, 13 (B1 for 2 or 3 correct values)
(b)		Graph drawn	2	M1 (may fit from (a) if B1 awarded) for at least 5 points correctly plotted A1 for correct graph from $x = 0$ to $x = 5$

Q7.

Question	Working	Answer	Mark	Notes												
	<p>Table of values</p> <table border="1"> <tr> <td>x</td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> </tr> <tr> <td>y</td> <td>-7</td> <td>-5</td> <td>-3</td> <td>-1</td> <td>1</td> </tr> </table> <p>OR</p> <p>Using <math>y = mx + c</math> Gradient 2 intercept -3</p>	x	-2	-1	0	1	2	y	-7	-5	-3	-1	1	<p>Single line drawn from (-2, -7) to (2, 1)</p>	3	<p><b>(Table of values)</b> M1 for at least 2 correct attempts to find points by substituting values of x. M1 (dep) ft for correctly plotting at least 2 of their points (any points plotted from their table must be plotted correctly) A1 for the correct line from (-2, -7) to (2, 1) OR <b>(No table of values)</b> M2 for at least 2 correct points (and no incorrect points) correctly plotted or for a line segment of the graph of <math>y = 2x - 3</math> drawn (ignore any additional incorrect line segments) [M1 for at least 3 correct points plotted with no more than 2 incorrect points] A1 for the correct line from (-2, -7) to (2, 1) OR <b>(Use of <math>y = mx + c</math>)</b> M2 for a single straight line of gradient 2, passing through (0, -3) [M1 for a single straight line of gradient 2 or for a single straight line passing through (0, -3)] A1 for the correct line from (-2, -7) to (2, 1)</p>
x	-2	-1	0	1	2											
y	-7	-5	-3	-1	1											

Q8.

Question	Working	Answer	Mark	Notes
(a)		<p>(-2) -1.5 -1 -0.5 (0) 0.5</p>	B2 [B1]	for a fully correct table for 2 or 3 correct entries]
(b)		Correct line	M1  A1	for correctly plotting at least 5 of their points (provided B1 scored in part (a)) or for a straight line with gradient 0.5 or for a straight line through (0,-1) with a positive gradient for a correct line between $x = -2$ and $x = 3$
(c)		2.6	B1	for answer in the range 2.5 to 2.7 or ft a single straight line with positive gradient

Q9.

Question	Working	Answer	Mark	Notes
(a)		5, 4, (3), 2, 1, (0)	2	M1 for 1 or 2 or 3 correct entries A1 cao
(b)		Line drawn	2	M1 plots 5 of their points correctly or a straight line with gradient $-1$ or a straight line through $(0, 4)$ A1 correct line between $x = -1$ and $x = 4$

Q10.

PAPER: IMA0/2F				
Question	Working	Answer	Mark	Notes
(a)		10, 8, (6), 4, 2, (0)	2	B2 for fully correct table (B1 for 2 or 3 entries correct)
(b)		line drawn	2	B2 for correct straight line between $x = -1$ and $x = 4$ (B1 for a single straight line which passes through $(0, 8)$ or for a single straight line with negative gradient $-2$ or for at least 5 points from their table plotted correctly)

Q11.

Question	Answer	Mark	Mark scheme	Additional guidance
	$y = 3x - 6$	M1	for a correct method to find the gradient of the line, or $m = 3$ OR identifies $-6$ as the intercept in words or in a partial equation OR $y - b = m(x - a)$ where $m \neq 3$ and $(a, b)$ is a correct coordinate	Just ringing $-6$ is insufficient
		M1	for $y = 3x + c$ or $(L=) 3x - 6$ or $y = "3"x - 6$ OR $y - y_1 = 3(x - x_1)$ or $y - b = "3"(x - a)$ where $(a, b)$ is a correct coordinate	Award of this mark implies the first M1 $c$ must be seen either as a letter or a number
		A1	accept $y = 3x + -6$ oe	

Q12.

Paper IMA1:3F				
Question	Working	Answer	Notes	
		$y = 2x + 1$	M1 for a method to find the gradient M1 for a method to find the $c$ in $y = mx + c$ A1 $y = 2x + 1$ oe in this format	