Mark scheme

Straight-line graphs and gradient

Mathematics 0580 · Questions from Paper 1, Paper 2 and Paper 3

Total marks

34

MARKS FOR EACH QUESTION

1	2	3	4	5	6	7	8	9	10	Total
2	2	2	3	3	3	3	3	4	9	**34**

Question 1 [2]

1(a)	E	**1**	
1(b)	B	**1**	

Question 2 [2]

2	$-\frac{6}{5}$ oe	**2**	**M1** for $\frac{1-7}{3--2}$ oe

Question 3 [2]

3	-2	**2**	**M1** for $\frac{-2k}{1k}$ or for $\frac{y_2-y_1}{x_2-x_1}$ for 2 points on the line

Question 4 [3]

4	**(a)**	$(7\ ,\ 1)$	**1**	
	(b)	-1.25 or $-\frac{5}{4}$ or $-1\frac{1}{4}$	**2**	**M1** for rise/run

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Question 5 **[3]**

5(a)	Circle around the statement Line A is parallel to line B	**1**	
5(b)	Correct graph of $y = 2x - 1$	**2**	**B1** for short or unruled line or for two correct coordinates plotted or for line with positive gradient passing through $(0, -1)$ or for line with gradient 2

Question 6 **[3]**

6(a)	3	**2**	**M1** for $\frac{3k}{1k}$
6(b)	$y = 3x - 2$ oe	**1**	**FT** *their* **(a)**

Question 7 **[3]**

7	$k - 3$ or $-3 + k$	**3**	**M1** for $5 = \frac{23-8}{k-x}$ oe **M1** for $5(k - x) = 23 - 8$ or better e.g. $[x =]\ k - \frac{23-8}{5}$

Question 8 **[3]**

8(a)	Correct line drawn	**2**	**M1** for a line with gradient 2 or for a line with positive gradient and intercept at $y = 1$
8(b)	$[x =]$ 2, $[y =]$ 5	**1**	FT intersection of *their* **(a)** with the given line

Question 9 **[4]**

9 (a)	2 cao	**2**	**M1** for rise/run attempted e.g. 4/2 or other correct method for finding gradient or **SC1** for $y = 2x - 1$ as answer
(b)	$y = 2x + 6$ oe	**2FT**	**FT** for $y =$ *their(a)*$x + 6$ **B1** for $y = mx + 6$ ($m \neq 0$ or 2) or $y = 2x$ [+ k] or $y =$ *their(a)*x [+ k] ($k \neq 6$) or for answer $2x + 6$ or answer *their(a)*$x + 6$

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Question 10 **[9]**

10	**(a)** $\frac{-4}{3}$ oe, –1.2 to –1.4	**2**	**B1** for attempt at $\frac{\text{rise}}{\text{run}}$
	(b) **(i)** 3, 2, 6	**3**	**B1** for each value
	(ii) Correct continuous line	**2ft**	Minimum length (0,3) to (6,0) **B1** for plotting their 3 points
	(c) $x = -2$, $y = 4$	**2ft**	**B1** for their x, **B1** for their y from their intersections

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