Straight Line Homework 1 - Marking Scheme

Question	Main points of expected responses	
1	$\bullet^1$ Parallel comment $\bullet^2$ Gradient $\bullet^3$ Equation	$\bullet^1$ Since parallel same gradient $\bullet^2$ $m = -\frac{2}{3}$ $\bullet^3$ $y - 2 = -\frac{2}{3}(x + 3)$
2	$\bullet^1$ Gradient $\bullet^2$ Angle	$\bullet^1$ $m = \frac{1}{\sqrt{3}}$ $\bullet^2$ 30^o
3	$\bullet^1$ Mid-point $\bullet^2$ Gradient $\bullet^3$ Equation	$\bullet^1$ D(1,-1) $\bullet^2$ $m_{AD} = -\frac{4}{3}$ $\bullet^3$ $y + 1 = -\frac{4}{3}(x - 1)$ OR $y - 3 = -\frac{4}{3}(x + 2)$
4	$\bullet^1$ Mid-point $\bullet^2$ Perpendicular Gradient $\bullet^3$ Equation	$\bullet^1$ M(5,1) $\bullet^2$ $m_{pen} = -\frac{3}{2}$ $\bullet^3$ $y - 1 = -\frac{3}{2}(x - 5)$
5	$\bullet^1$ Gradients $\bullet^2$ Statement $\bullet^3$ Statement	$\bullet^1$ $m_{AB} = m_{BC} = -1$ $\bullet^2$ $since\ m_{AB} = m_{BC}$ $\bullet^3$ $Point\ in\ common\ B$
6 (a)	$\bullet^1$ Gradient $\bullet^2$ Gradient $\bullet^3$ Statement	$\bullet^1$ $m_{AB} = 2$ $\bullet^2$ $m_{BC} = -\frac{1}{2}$ $\bullet^3$ $since\ m_{AB} \times m_{BC} = -1$ right angled
6 (b) (i)	$\bullet^1$ Mid-point $\bullet^2$ Gradient $\bullet^3$ Equation	$\bullet^1$ D(2,-1) $\bullet^2$ $m_{AD} = \frac{1}{3}$ $\bullet^3$ $y + 1 = \frac{1}{3}(x - 2)$ OR $y + 3 = \frac{1}{3}(x + 4)$
6 (b) (i)	$\bullet^1$ Mid-point $\bullet^2$ Gradient $\bullet^3$ Equation	$\bullet^1$ E(1,-3) $\bullet^2$ $m_{BE} = -\frac{4}{3}$ $\bullet^3$ $y - 1 = -\frac{4}{3}(x + 2)$ OR $y + 3 = -\frac{4}{3}(x - 1)$

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6 (b) (ii)	$\bullet^1$ Evidence of Sim. Equations	$\bullet^1$ $x - 3y = 5$ $4x + 3y = -5$
	$\bullet^2$ Gradient	$\bullet^2$ $x = 0 \quad y = -\frac{5}{3}$