

Q5	Model Solution – 25 Marks	Marking Notes
(a)	$4y + 3 = 2x$ $y = \frac{2x - 3}{4}$ $m(L_1) = \frac{1}{2}$ $m(L_2) = -2$ $(L_2): y - 4 = -2(x - 2)$ $2x + y - 8 = 0$	<p>MS (0, 2, 3, 4, 5)</p> <p>LPC: attempt to find the slope of l_1</p> <p>MPC: Correctly finding the slope of l_2 from their slope of l_1</p> <p>HPC: Work of merit to find equation of line</p>
(b)	$y = 8 - 2x$ $4(8 - 2x) + 3 = 2x$ $x = 3.5, y = 1$	<p>MS (0, 3, 5)</p> <p>PC: Work of merit eg isolating y and substituting into the other equation</p>
(c)	$CD = \sqrt{(3.5 - 2)^2 + (1 - 4)^2}$ $= \sqrt{1.5^2 + 3^2}$ $= 1.5\sqrt{1^2 + 2^2}$ $= 1.5\sqrt{5}$ $= \frac{3}{2}\sqrt{5}$	<p>MS (0, 3, 5)</p> <p>PC: Work of merit like some correct substitution into the length of a line formula</p>
(d)	$\text{Area} = \text{triangle } ABC + \text{triangle } ABE$ $= \frac{1}{2} \times \frac{3}{2}\sqrt{5} \times \sqrt{80} + \frac{1}{2} \times 3\sqrt{5} \times \sqrt{80}$ $= \frac{3}{4}\sqrt{5} \times 4\sqrt{5} + \frac{3}{2}\sqrt{5} \times 4\sqrt{5}$ $= \frac{3}{4}(20) + \frac{3}{2}(20)$ $= 45$	<p>MS (0, 4, 7, 8, 10)</p> <p>LPC: Some correct substitution into the equation of a triangle formula</p> <p>MPC: Correctly find the area of one of the triangles</p> <p>HPC: Fully correct method and finds a final answer but with one mistake</p> <p>**9 marks for no units**</p>