

Question 12 – 5:

12(a)	17	3	M2 for $3 \times 2x^2 - 7$ or better isw or M1 for $3 \times 2x^2$ oe or $kx^2 - 7$ seen
12(b)(i)	13.4 or 13.41 to 13.42	3	M2 for $\sqrt{(-5-7)^2 + (8-2)^2}$ oe or M1 for $(-5-7)^2 + (8-2)^2$ oe
12(b)(ii)	$[y =] 2x + 5$ final answer	4	M1 for [gradient of $AB = \frac{8-2}{-5-7}$ oe M1dep for gradient $p = -1 \div \text{their } -\frac{1}{2}$ oe M1dep on previous M1 for substituting $(-1, 3)$ into $y = \text{their } px + c$ oe where $\text{their } p \neq 0$
12(b)(iii)	(5, 0)	4	B3 for $\overline{AD} = \begin{pmatrix} -2 \\ -2 \end{pmatrix}$ or $\overline{DA} = \begin{pmatrix} 2 \\ 2 \end{pmatrix}$ or coordinates of C $(-7, 6)$ and $[\overline{CD} =] \begin{pmatrix} 12 \\ -6 \end{pmatrix}$ oe seen or B2 for $a = b = 2$ soi or coordinates of C $(-7, 6)$ or M1 for $a = b$ oe soi or for $a^2 + b^2 = (\sqrt{8})^2$ oe or $\cos 45 = \frac{a}{\sqrt{8}}$ oe or for $[\overline{DC} =] \begin{pmatrix} -12 \\ 6 \end{pmatrix}$ or $[\overline{CD} =] \begin{pmatrix} 12 \\ -6 \end{pmatrix}$ seen or $\frac{y-8}{x-5} = 1$ oe or $\frac{y-2}{x-7} = 1$