

Question 8 – 3:

8(a)(i)	$(-0.5, 1)$	2	B1 for each
8(a)(ii)	$\begin{pmatrix} 7 \\ -3 \end{pmatrix}$	2	B1 for each
8(a)(iii)	7.62 or 7.615 to 7.616	2	FT <i>their</i> (a)(ii) M1 for $(\text{their } 7)^2 + (\text{their } -3)^2$ oe
8(a)(iv)	$[y =] -4x - 1$ final answer	3	B2 for answer $-4x + c$ [oe] or for correct equation in different form or for $-4x + -1$ or for $-4m - 1$ OR M1 for $\frac{-5-7}{1-2}$ oe M1 for correct substitution shown of $(-2, 7)$ or $(1, -5)$ or <i>their</i> $(-0.5, 1)$ into $y = (\text{their } m)x + c$ oe OR M1 for $7 = -2m + c$ and $-5 = m + c$ A1 for $m = -4$ and $c = -1$
8(a)(v)	$[y =] \frac{1}{4}x + \frac{11}{4}$ final answer	3	M1 for $\text{grad} = \frac{1}{4}$ oe nfw so, FT negative reciprocal of <i>their</i> gradient from (iv) M1 for correct substitution shown of $(5, 4)$ into $y = (\text{their } m)x + c$ oe or, if no substitution shown, $(5, 4)$ satisfies <i>their</i> final linear equation.

8(b)	$2x^2 + 11x - 21 [= 0]$	M2	or M1 for $8 - 5x = 2x^2 + 6x - 13$ oe or better
	$(2x - 3)(x + 7) [= 0]$ oe or $\frac{-11 \pm \sqrt{11^2 - 4 \times 2 \times (-21)}}{2 \times 2}$ or $-\frac{11}{4} \pm \sqrt{\frac{21}{2} + \left(\frac{11}{4}\right)^2}$ oe	M2	Allow correct method to solve <i>their</i> quadratic equation e.g. formula, complete the square but not for $2x^2 + 6x - 13$ M1 FT <i>their</i> equation for $2x(x+7) - 3(x+7) [= 0]$ or $x(2x-3) + 7(2x-3) [= 0]$ or $(2x+a)(x+b) [= 0]$ where $ab = -21$ or $2b + a = 11$ OR M1 for $\sqrt{11^2 - 4 \times 2 \times -21}$ or for $\frac{-11 + \sqrt{k}}{2 \times 2}$ or $\frac{-11 - \sqrt{k}}{2 \times 2}$ OR M1 for $\left(x + \frac{11}{4}\right)^2$
	$\left(\frac{3}{2}, \frac{1}{2}\right)$ and $(-7, 43)$	B2	B1 for one correct pair or for 2 correct x -values or 2 correct y -values