

Q1	Model Solutions - 30 Marks	Marking Notes
(a)	$\begin{aligned} (-1,4) &\xrightarrow{+1,-4} (0,0) \\ (3,2) &\xrightarrow{+1,-4} (4,-2) \\ (5,3) &\xrightarrow{+1,-4} (6,-1) \end{aligned}$ $A = \frac{1}{2} (4)(-1) - (6)(-2) $ $A = 4 \text{ sq units}$	Scale 10D (0, 3, 5, 8, 10) <i>Low Partial Credit</i> - One translation correct <i>Mid Partial Credit</i> - All translations correct - Incorrect translation and stops <i>High Partial Credit</i> - Incorrect translation but correctly substituted in formula - Fully correct substitution
(b) (i)	$y + 6 = \frac{2+6}{-3-7}(x-7)$ $\begin{aligned} 4x + 5y &= -2 \\ \underline{-4x + 6y} &= \underline{2} \\ y &= 0 \qquad \therefore x = 0 \cdot 5 \end{aligned}$	Scale 5D (0, 2, 3, 4, 5) <i>Low Partial Credit</i> - Correct substitution to find equation of [ST] <i>Mid Partial Credit</i> - Equation of [ST] correct <i>High Partial Credit</i> - Correct equations but error in solving - Incorrect equation but solves to end
(ii)	$a:b = 1:3$	Scale 5B (0, 2, 5) <i>Partial Credit</i> Any correct work towards finding $a:b$
(c)	$\tan 45 = \pm \frac{m - \frac{2}{3}}{1 + m\left(\frac{2}{3}\right)}$ $3 + 2m = \pm 3m - 2$	Scale 10C (0, 3, 7, 10) <i>Low Partial Credit</i> - Any correct substitution into formula - Writes down slope of $n \ m?$ <i>High Partial Credit</i> - Error in solving a fully correct substituted formula - Error in substitution but solves correctly to end - Omits one solution from otherwise correct solution