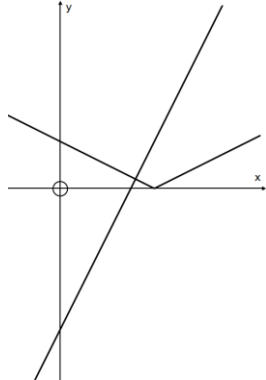


Question			Answer	Marks	AO	Guidance	
8	(a)		$x < 0$	B1 [1]	2.2a	Correct inequality	B0 for $x \leq 0$ Could use interval notation ie $(-\infty, 0)$ Condone an incorrect attempt at set notation, as long as intention is clear
8	(b)	(i)	max value is 19 (from $n = -9$)	B1 [1]	1.1	State correct value, and no other	Value of n not required, but B0 if 19 comes from a clearly incorrect n B0 if additional solution B0 for $n \leq 19$
8	(b)	(ii)	min value is 1 (from $n = 0$ and/or 1)	B1 [1]	1.1	State correct value, and no other	Value of n not required, but B0 if 1 comes from a clearly incorrect n B0 if additional solution B0 for $n \geq 1$
8	(c)	(i)	$\frac{1}{2}x - 1 = 2x - 3$ $x = \frac{4}{3}$ $\frac{1}{2}x - 1 = -2x + 3$ $x = \frac{8}{5}$	B1 M1 A1 [3]	1.1 1.1 1.1	Obtain $x = \frac{4}{3}$ oe Attempt to solve equation with all signs reversed on one side of the equation, or square both sides and attempt to solve Obtain $x = \frac{8}{5}$ oe	 M0 for eg $\frac{1}{2}x - 1 = -2x - 3$ Maximum of 2 marks if additional solutions

Question	Answer	Marks	AO	Guidance
	Alternative method $\left(\frac{1}{2}x - 1\right)^2 = (2x - 3)^2$ $\frac{1}{4}x^2 - x + 1 = 4x^2 - 12x + 9$ $15x^2 - 44x + 32 = 0$ $(3x - 4)(5x - 8) = 0$ $x = \frac{4}{3}$ $x = \frac{8}{5}$	M1 A1 A1		Square both sides to obtain two 3 term quadratics, and attempt to solve Obtain $x = \frac{4}{3}$ Obtain $x = \frac{8}{5}$ Possibly BC Maximum of 2 marks if additional solutions
8	(c) (ii) $x = \frac{8}{5}$ only, as $2 \times \frac{4}{3} - 3 = -\frac{1}{3}$ but modulus cannot be equal to a negative value, so not a valid solution OR Sketch graphs of both functions and identify $x = \frac{8}{5}$ as the single point of intersection OR State that the gradient of the straight line is greater than the gradient of the (positive part) of the modulus graph so will only be one point of intersection, namely $x = \frac{8}{5}$	B1	2.3	State $x = \frac{8}{5}$, with reason as to why other solution is not valid The gradient of $y = 2x - 3$ must be clearly greater than the gradient of $y = \frac{1}{2}x - 1$ Correct sketch, but no scale needed (ISW any incorrect intercepts), but intercept of the lines must be to the left of the minimum point 

Question			Answer	Marks	AO	Guidance	
				[1]			