

<b>9</b>	<b>(a)</b>		(1.5, 0)	<b>B1</b>	<b>1.1</b>	Allow $x = 1.5$	Unless contradicted with non-zero $y$ -coord
			(0, 3)	<b>B1</b>	<b>1.1</b>	Allow $y = 3$	Unless contradicted with non-zero $x$ -coord
				<b>[2]</b>			
	<b>(b)</b>	<b>(i)</b>	$a < 2$	<b>B1</b>	<b>3.1a</b>	Allow for answer of form $k < a < 2$	

Question			Answer	Marks	AO	Guidance	
			$0 = 1.5a + 2$  $a = -\frac{4}{3}$  $-\frac{4}{3} < a < 2$	<b>M1</b>  <b>A1</b>  <b>A1</b>  <b>[4]</b>	<b>3.1a</b>  <b>1.1</b>  <b>1.1</b>	Attempt to find value of $a$ at their $x$ intersection  Obtain $-\frac{4}{3}$ (condone any inequality sign, an equals sign or no sign) Correct final inequality  Correct point of intersection – allow any exact equiv  Attempt to solve linear equation with $2x$ and $ax$ of different signs Correct point of intersection – allow any exact equiv	eg Use equation of line to find $a$ Use gradient of line to find $a$ Use a point of intersection of the two lines = their 1.5 Equate two points of intersection and solve for $a$ Square both sides and link discriminant to 0 Question is ‘determine’ so method required for this value of $a$  Formal set notation not required  <b>OR</b> M1 – square both sides and attempt to solve – as far as substituting into quadratic formula A1 A1 for each root Method may be seen in (i), only credit if answers seen in (ii) Max of 2 out of 3 if additional roots as well.
		<b>(ii)</b>	$2x - 3 = ax + 2$  $x = \frac{5}{2 - a}$  $3 - 2x = ax + 2$ $(2 + a)x = 1$  $x = \frac{1}{2 + a}$	<b>B1</b>  <b>M1</b>  <b>A1</b>  <b>[3]</b>	<b>1.1</b>  <b>1.1a</b>  <b>1.1</b>	Correct point of intersection – allow any exact equiv  Attempt to solve linear equation with $2x$ and $ax$ of different signs Correct point of intersection – allow any exact equiv	<b>OR</b> M1 – square both sides and attempt to solve – as far as substituting into quadratic formula A1 A1 for each root Method may be seen in (i), only credit if answers seen in (ii) Max of 2 out of 3 if additional roots as well.