

9	$y = mx + 2$ $mx + 2 = x^2 - x + 6$ $x^2 - (m + 1)x + 4 = 0$ Equal roots, hence $(m + 1)^2 - 16 = 0$ $m = -5$ inadmissible $m = 3$ Equation is $y = 3x + 2$	<b>M1</b> seen or implied <b>M1</b> Attempt solve eqns of line and curve simultaneously <b>A1</b> <b>M1</b> Attempt use $b^2 - 4ac = 0$ <b>B1</b>  <b>A1</b>
	<b>Alternative Method</b> grad of tangent = $2x - 1$ Where tgt touches curve $y = (2x - 1)x + 2$ Hence $(2x - 1)x + 2 = x^2 - x + 6$ $x^2 = 4$ $x = -2$ gives gradient = $-5$ , so reject $x = 2$ gives gradient = $3$ Equation is $y = 3x + 2$	<b>M1</b> Must be correct  <b>M1</b> Allow M1 for just $y = (2x - 1)x + 2$ oe <b>M1</b> <b>A1</b> <b>B1</b>  <b>A1</b>
		<b>[6]</b>