

Q	Marking Instructions	AO	Marks	Typical Solution
6(a)	Completes a square correctly once OE (PI by one correct coordinate of the centre)	1.1a	M1	$x^2 + 10x + 25 + y^2 - 4y + 4 - 100 = 0$ $(x + 5)^2 + (y - 2)^2 = 100$ <p style="text-align: center;">Centre = (-5, 2)</p>
	Obtains correct centre	1.1b	A1	
	<b>Subtotal</b>		<b>2</b>	
6(b)	Finds correct gradient from 'their' centre from (a) to the point (1, 10)	1.1b	B1F	Gradient from (-5, 2) to (1, 10) is $\frac{8}{6}$
	Uses perpendicular gradient property for 'their' gradient	1.1a	M1	So perpendicular gradient is $-\frac{3}{4}$ $y - 10 = -\frac{3}{4}(x - 1)$
	Finds 'their' equation of the line based on 'their' perpendicular gradient. Finding c = 10.75 (OE) is sufficient for M1	1.1a	M1	$4y - 40 = -3x + 3$ $3x + 4y - 43 = 0$
	Rearranges "their" equation of the line into form $ax + by + c = 0$ (FT 'their' centre of the circle only)	1.1b	A1F	
	<b>Subtotal</b>		<b>4</b>	
	<b>Question Total</b>		<b>6</b>	