Q	Marking instructions	AO	Marks	Typical solution
7(a)	Obtains midpoint $(-2, 3)$	1.1b	B1	Midpoint of AB is $(-2, 3)$
	Finds the gradient of the line AB Using 5 with 1 divided by -8 with 4 PI by Gradient $= \pm\dfrac{1}{3}$	1.1a	M1	Gradient of AB $= \dfrac{5-1}{-8-4} = -\dfrac{1}{3}$
	Obtains gradient of AB $= -\dfrac{1}{3}$ OE	1.1b	A1	Gradient of perpendicular to AB $= 3$
	Applies perpendicular gradient rule to their gradient	1.1a	M1	Equation is $y - 3 = 3(x + 2)$
	Obtains correct equation of perpendicular bisector ISW ACF	1.1b	A1	$y = 3x + 9$
	Subtotal		**5**	

Q	Marking instructions	AO	Marks	Typical solution
7(b)	Uses x-intercept of their equation to find their centre of the circle Or Forms two equations of the form $(x - a)^2 + y^2 = r^2$	3.1a	M1	When $y = 0$, $x = -3$
	Uses the distance formula between two points at least one of which must be A(4 , 1) or B(-8 , 5) Or Solves their two equations to find their a and uses this a to find their r	1.1a	M1	$(-3, 0)$ to $(4, 1) = \sqrt{7^2 + 1^2}$ radius $= \sqrt{50}$ $(x + 3)^2 + y^2 = 50$
	Obtains r $= \sqrt{50}$ or $r^2 = 50$ PI by correct answer	1.1b	A1	
	Obtains $(x + 3)^2 + y^2 = 50$ OE	1.1b	A1	
	Subtotal		**4**	

	Question 7 Total		**9**	