

Question		Answer	Marks	AOs	Guidance	
7	(a)	<p>DR Midpoint of AB is (3, 1) Centre C of the circle is (3, 1) and radius $\sqrt{(7-3)^2 + (-2-1)^2} = 5$ So circle is $(x-3)^2 + (y-1)^2 = 25$</p>	<p>B1 M1 M1 A1 [4]</p>	<p>3.1a 3.1a 1.1b 1.1b</p>	<p>soi Attempt to find length of AB, AC or BC Uses their midpoint and radius (do not allow for diameter used) Need not be simplified</p>	
7	(b)	<p>DR Crosses $y = 2x + 5$ where $(x-3)^2 + (2x+5-1)^2 = 25$ $5x^2 + 10x = 0$ giving $x = -2, 0$ So points are $(-2, 1)$ and $(0, 5)$</p>	<p>M1 A1 A1 [3]</p>	<p>1.1b 1.1b 1.1b</p>	<p>Substituting $y = 2x + 5$ and attempting to collect terms oe Both values correct Correct y coordinates FT their x-coordinates</p>	<p>Allow for a quadratic solved BC providing it is seen in form $ax^2 + bx = 0$ or $ay^2 + by + c = 0$</p>
7	(c)	<p>DR $AQ = \sqrt{2}$ and $BQ = \sqrt{7^2 + 7^2} = 7\sqrt{2}$ Triangle ABQ has a right angle at Q (angle in a semicircle) So area of triangle is $\frac{1}{2} \times AQ \times BQ$ Area = 7</p>	<p>M1 M1 A1 [3]</p>	<p>3.1a 2.1 1.1b</p>	<p>Attempt to find two lengths to be used in their area calculation (excluding AB) Correct method for finding the area FT their Q</p>	<p>Note $\angle QAB = 81.9^\circ$ and $\angle QBA = 8.1^\circ$</p>