Question			Answer	Marks	AO	Guidance	
6	(a)		$(AB=)\sqrt{(-3-5)^2+(1-0)^2}$ or $(BC=)\sqrt{(5-9)^2+(0-7)^2}$	M1	1.1	Correct formula for the distance between two points for either *AB* **or** *BC* (or these distances squared)	3 out of 4 values correct for either distance
			$AB=BC=\sqrt{65}$	A1 [2]	1.1	Correctly showing that *AB* = *BC*, exact values needed	
6	(b)		$(AC=)\sqrt{(-3-9)^2+(1-7)^2}$	M1	2.1	Attempt to find *AC* (or its square) – 3 out of 4 values correct	Or find gradients of both line segments $m_{AB}=\frac{1-0}{-3-5}$ and $m_{BC}=\frac{7-0}{9-5}$
			$\left(\sqrt{65}\right)^2+\left(\sqrt{65}\right)^2(=130)\neq 180(=AC^2)$ so angle *ABC* is not a right angle Or $\cos ABC=-\frac{5}{13}$, which is not =0 therefore angle ABC is not a right angle Or Angle $ABC=112.62...^{o}$ which is not a right angle	A1 [2]	2.4	Show correctly that Pythagoras does not hold in triangle *ABC* Using cosine rule	Or $-\frac{1}{8}\times\frac{7}{4}=\left(-\frac{7}{32}\right)\neq -1$ So angle *ABC* is not a right angle o.e.
6	(c)		(3, 4)	B1 [1]	1.1		

Question			Answer	Marks	AO	Guidance	
6	(d)		$\frac{y-0}{4-0}=\frac{x-5}{3-5}$	M1	1.1	Correct formula for the equation of the line between B and their midpoint of AC from **(c)**	Or using $y-y_1=m_{BM}\left(x-x_1\right)$ Or using $y=m_{BM}x+c$
			$2x+y=10$	A1	1.1	o.e. required form.	
				[2]			
6	(e)		$(x+3)^2+(y-1)^2=65$	B1 B1FT	1.1 1.1	**B1** for correct LHS **B1FT** for their AB^2 on RHS	Must be an equation to gain marks
				[2]			
6	(f)		(1, 8)	B1	2.2a		
				[1]			