Question Number	Scheme	Marks
8(a)	$AB^2 = 4^2 + 2^2,\ BC^2 = 2^2 + 6^2,\ AC^2 = 2^2 + 4^2$	M1 (any one)
	(i) $AB = \sqrt{20}$ (ii) $BC = \sqrt{40}$ (iii) $AC = \sqrt{20}$ or equivalents (4.47) (6.32) (4.47)	A1A1A1 (4)
(b)	Any complete method for finding one of the angles: eg $AB^2 + AC^2 = BC^2 \Rightarrow \angle A = 90°$ or use trigonometry	M1
	$\angle A = 90°,\ \angle B = \angle C = 45°$	A1, A1 (3)
I	(centre at midpoint of BC) $(5,5)$	M1A1 (2)
(d)	Radius $= \frac{1}{2}BC = \frac{1}{2}\sqrt{40} = \sqrt{10}$ (Working for (d) may be seen in a previous part)	M1A1 (2) [11]

(a)	
M1	Use Pythagoras with a plus sign to obtain AC^2, BC^2 or AC^2. If the answer is incorrect it must be clear that the correct coordinates have been used correctly.
A1A1A1	Award A1 for each correct length. Ignore labels (i), (ii) and (iii). Award M1A1A1A1 / M1A1A1A0 / M1A1A0A0 as appropriate.
SC:	If there is no working shown but at least one length is correct, award M1 and deduct one A mark for each incorrect length. (no length correct and no working $\Rightarrow$ M0) If all 3 lengths are correct to at least 3 sf, award M1A1A1A0 If 2 are correct to at least 3 sf, award M1A1A0A0
(b)	
M1	Attempt to obtain any of the required angles. Method must be complete (ie reach a value for one angle) and formula used must be correct and values must be substituted into a correct formula.
A1	$\angle A = 90°$ Any labelling given can be ignored.
A1	$\angle B = \angle C = 45°$ All 3 correct w/o working scores M1A1A1
(c)	
M1	For indicating that the centre is at the midpoint of *BC*. This can be stated explicitly or used by attempting to find the midpoint. **OR:** Find equations for perpendicular bisectors of 2 of the sides and find the point of intersection
A1	Both coordinates correct. Correct answer written down w/o working scores M1A1
(d)	
M1	For indicating that the radius is half the length of *BC*. This can be stated explicitly or used by attempting to find half of their *BC* (not nec in the required form).
A1	Correct length of the radius, in the required form.
NB	If half the length of *BC* has been found earlier the marks for (d) can only be awarded if the length of the radius has been written in (d).