

Question	Scheme	Marks	AOs
3(a)		M1	1.1b
		A1	1.1b
		(2)	
(b)		B1	1.1b
		B1ft	1.1b
		(2)	
(c)	$8^2 - 2^2 = h^2 \Rightarrow h = \dots$	M1	3.1a
	$h = 2\sqrt{15}$	A1	1.1b
	Triangle area = $\frac{1}{2} \times 2 \times 2\sqrt{15}$	M1	2.1
	Sector area = $\frac{1}{2} \times 8^2 \times (\pi - \tan^{-1}(\sqrt{15}))$ or $\frac{1}{2} \times 8^2 \times (\pi - \cos^{-1}(\frac{1}{4}))$	M1	3.1a
	Total area = $\frac{1}{2} \times 8^2 \times (\pi - \tan^{-1}(\sqrt{15})) + \frac{1}{2} \times 2 \times 2\sqrt{15}$ = 66.1	A1	1.1b
		(5)	

(9 marks)

Notes

- (a) M1: A circle drawn
- A1: A circle entirely in the first quadrant with the centre marked at (10, 12)
- (b) B1: Correct pair of rays added to their diagram
- B1ft: Area between their rays and within the circle shaded
- (c) M1: Correct strategy to find the base (or angle) of the triangular part
- A1: Correct length or angle
- M1: Correct method for the area of the triangle
- M1: Correct strategy for the area of the sector
- A1: Correct answer (awrt 66.1)