Question number	Scheme	Marks
4	Area of sector = $0.4r^2$	B1
	$BC = r\tan 0.8$	B1
	Area of triangle = $\frac{1}{2}r^2\tan 0.8$	B1 ft
	Shaded region = $\frac{1}{2}r^2\tan 0.8 - 0.4r^2 = 101$	M1 M1
	$r^2 = \frac{101}{\frac{1}{2}\tan 0.8 - 0.4}$	
	$r = 29.7$	A1
		[6]

Mark	**Additional Guidance**
Accept angle converted to degrees $0.8^c = 45.84°$ throughout $\tan(0.8) = \tan(45.8...)^0 = 1.0296$	
B1	For the correct area of the sector = $\frac{0.8}{2}r^2$ oe (need not be simplified)
B1	For $BC = r\tan 0.8$ oe e.g. accept $\tan\left(\frac{4}{5}\right) = \frac{BC}{r}$ This may be embedded in $'\frac{r\times r\tan 0.8}{2}'-'\frac{0.8}{2}r^2' = 101$ Award when seen.
B1ft	$A = \frac{r\times r\tan 0.8}{2}$
M1	Shaded region = $'\frac{r\times r\tan 0.8}{2}'-'\frac{0.8}{2}r^2' = 101$ Ft their expressions for the areas of the sector and triangle provided they are as a minimum $kr^2\tan 0.8$ and lr^2 where *k* and *l* are constants
dM1	**This mark is dependent on the previous M mark** For attempting to solve their equation $r = \sqrt{\frac{101}{\frac{1}{2}\tan 0.8 - 0.4}} = (29.658...)$ **This is an A mark in Epen**
A1	$r = 29.7$ only