June 2019
4PM1 Further Pure Mathematics Paper 1

Question number	Scheme	Marks
1 (a)	$l = r\theta \Rightarrow r = \frac{12}{1.5} = 8$	B1 [1]
(b)	$A = \frac{1.5}{2} \times 8^2 = 48\ (\text{cm}^2)$	M1A1 [2]
	ALT 1	
	$A = \frac{l^2}{2\theta} = \frac{12^2}{2 \times 1.5} = 48\ (\text{cm}^2)$	{M1A1} [2]
	ALT 2	
	$A = \frac{1}{2}rl = \frac{1}{2} \times 8 \times 12 = 48\ (\text{cm}^2)$	{M1A1} [2]
		Total 3 marks

(a)	
B1	$r = 8$
(b)	$A = 48\ (\text{cm}^2)$ units not required
M1	Use of $A = \frac{1}{2}r^2\theta$
A1	$A = 48\ (\text{cm}^2)$ units not required
ALT 1:	
M1	Use of $A = \frac{l^2}{2\theta}$
A1	$A = 48\ (\text{cm}^2)$ units not required
ALT 2:	
M1	Use of $A = \frac{1}{2}rl$
A1	$A = 48\ (\text{cm}^2)$ units not required