Question	Scheme	Marks	AOs
6(a)	Area of triangle is $\frac{1}{2}\times 12^2\sin\theta$ Area of segment is $\frac{1}{2}\times 12^2\times\theta-\frac{1}{2}\times 12^2\sin\theta$ $\frac{3}{2}\times 12^2\times\theta-\frac{3}{2}\times 12^2\sin\theta=\frac{1}{2}\times 12^2\sin\theta$	M1	2.1
	$\Rightarrow 3\theta-4\sin\theta=0$*	A1*	1.1b
		(2)	
(b)	$f'(\theta)=3-4\cos\theta$	B1	1.1b
	$\theta_1=1.2\Rightarrow\theta_2=1.2-\frac{f(1.2)}{f'(1.2)}=1.2-\frac{3.6-4\sin 1.2}{3-4\cos 1.2}=...$	M1	1.1b
	$=1.283$	A1	1.1b
		(3)	
			(5 marks)

Notes

(a)

M1: Fully correct strategy using the given information

A1*: Correct result from correct working

(b)

B1: Correct derivative

M1: Applies the Newton-Raphson method correctly

A1: Correct value