Question	Answer	Marks	Partial Marks
7(b)	Arc length CD: 7	**B1**	
	$\sin(0.35) = \frac{AB/2}{12}$	**M1**	For a complete method to find AB, could be using cosine rule
	$AB = 8.23(0)$	**A1**	
	Perimeter = $7 + 4 + 8.23 = 19.2$	**A1**	
7(c)	Area of triangle $= \frac{1}{2}12^2 \sin 0.7$	**M1**	For complete attempt at triangle area, may use equivalent method
	Area of triangle $= 46.4$	**A1**	
	Shaded area $= 11.4$	**A1**	Follow through on *their* area of the triangle
8(a)	$\frac{n}{2}(14 + (n-1)0.4)$	**B1**	
	$\frac{n}{2}(14 + (n-1)0.4) > 300$ $0.4n^2 + 13.6n - 600 > 0$	**M1**	Attempt to form a 3 term inequality and find the positive critical value
	Positive critical value 25.29	**A1**	
	26 terms	**A1**	
8(b)	$a + ar = 9$	**B1**	
	$\frac{a}{1-r} = 36$	**B1**	
	$36(1+r)(1-r) = 9$	**M1**	attempt at solution of simultaneous equations
	$r = \frac{\sqrt{3}}{2}$	**A1**	

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Question	Answer	Marks	Partial Marks
9	$x(5x-3)=2$ $5x^2-3x-2=0$	**M1**	attempt at a 3-term quadratic equation in one variable with solution
	$x=1,\ x=-\frac{2}{5}$	**A1**	Allow if $x=-\frac{2}{5}$ not seen
	$A\ (1,\ 2)$	**A1**	
	$B\left(\frac{3}{5},\ 0\right)$	**B1**	
	Area of triangle $=\frac{2}{5}$	**M1**	Using *their A* and *B*
	Area under curve: $\int_1^3 \frac{2}{x}\,dx=\left[2\ln x\right]_1^3$	**B1**	For $\left[2\ln x\right]_1^3$
	$=2\ln 3$	**M1**	For use of limits
	Total area $=\frac{2}{5}+\ln 9$	**A1**	
10(a)	$\frac{dy}{dx}=\frac{1}{2}x(x+2)^{-\frac{1}{2}}+(x+2)^{\frac{1}{2}}$	**B1**	For $\frac{1}{2}(x+2)^{-\frac{1}{2}}$
		M1	For differentiation of a product
		A1	
	$\frac{dy}{dx}=\frac{1}{2}(x+2)^{-\frac{1}{2}}\left[x+2(x+2)\right]$	**M1**	For attempt to simplify
	$\frac{dy}{dx}=\frac{3x+4}{2\sqrt{x+2}}$	**A1**	
10(b)	$3x+4=0$	**M1**	For setting *their* numerator in (a) to zero and attempt to solve
	$x=-\frac{4}{3}$	**A1**	
	$y=-\frac{4\sqrt{6}}{9}$ oe	**A1**	
10(c)	Using the gradient method or inspection of y-coordinates either side of stationary point. Allow use of second derivative	**M1**	complete method
	Minimum	**A1**	Must be from correct work

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