Question	Answer	Marks	Partial Marks
6	$\frac{(x+1)^2}{x^2}=\frac{x^2+2x+1}{x^2}=1+\frac{2}{x}+\frac{1}{x^2}$	**2**	**B1** for expanding numerator seen anywhere. **M1** for attempt to divide *their* three term numerator by x^2.
	$\int 1+\frac{2}{x}+\frac{1}{x^2}\mathrm{d}x=x+2\ln x-\frac{1}{x}+(c)$	**2**	**A2/1/0** minus 1 each error or omission.
	$\left[4-2\ln 4-\frac{1}{4}\right]-\left[2+2\ln 2-\frac{1}{2}\right]$	**M1**	**Dep** insert 4 and 2 into *their* three or two term integrand and subtract correctly.
	$=\frac{9}{4}+2\ln 2$	**A1**	oe must be exact two terms. isw
7 (a)	$a=3 \quad r=\frac{2.4}{3}=0.8$	**B1**	
	$S_8=\frac{3(1-0.8^8)}{(1-0.8)}$	**M1**	Inserts *their* a and r into S_8
	= 12.48 awrt or 12.5	**A1**	
7(b)	$S_\infty=\frac{3}{(1-0.8)}=15$	**B1**	
7(c)	$S_n = 15(1-0.8^n) > 0.95\times 15$	**M1**	*their* correctly produced $S_n > 0.95S_\infty$
	$0.8^n < 0.05$	**A1**	oe
	$n < \frac{\log 0.05}{\log 0.8}$ or $n<\log_{0.8}0.05$	**M1**	**Dep** takes logs correctly of *their* expression with power of n.
	$n = 14$	**A1**	nfww
8(a)	$\frac{1}{2}(2\sqrt{3}+1)AC\sin 30° = \frac{11}{2}$	**M1**	Correct use of area of a triangle
	$(2\sqrt{3}+1)AC = 22$	**A1**	oe
	$AC=\frac{22}{(2\sqrt{3}+1)}\times\frac{(2\sqrt{3}-1)}{(2\sqrt{3}-1)}$	**M1**	Multiply by *their* $(2\sqrt{3}+1)$
	$AC = 4\sqrt{3}-2$	**A1**	