3	$\int \ln\left(\frac{x^2+1}{x^2}\right) \times \frac{\sqrt{x^2+1}}{x^4}\, dx$	M1
	$\int \frac{\sqrt{x^2+1}}{\sqrt{x^2}} \ln\left(1+\frac{1}{x^2}\right) \times \frac{1}{x^3}\, dx$ $\int \sqrt{1+\frac{1}{x^2}} \ln\left(1+\frac{1}{x^2}\right) \times \frac{1}{x^3}\, dx$	M1
	$u = \sqrt{1+\frac{1}{x^2}}$	M1
	$u^2 = 1+\frac{1}{x^2}$ $2u\, du = -\frac{2}{x^3} dx$	M1
	$\int u \ln(u^2) \times \frac{1}{x^3} \times (-x^3)\, du$	M1
	$\int -u^2 \ln u^2\, du$ $-2\int u^2 \ln u\, du$	M1
	Attempts to use integration by parts, $t = \ln u \Rightarrow \frac{dt}{du} = \frac{1}{u}$ $\frac{dv}{du} = u^2 \Rightarrow v = \frac{u^3}{3}$	M1
	$-2\left(\frac{u^3}{3}\ln u - \int \frac{u^3}{3} \times \frac{1}{u}\, du\right)$	M1
	$-\frac{2u^3}{3}\ln u + \frac{2u^3}{9} + C$	M1
	$\frac{2}{9}u^3(1-3\ln u) + C$	M1
	$\frac{2}{9}\left(\sqrt{1+\frac{1}{x^2}}\right)^3\left(1-3\ln\left(\sqrt{1+\frac{1}{x^2}}\right)\right) + C$	M1
	$\frac{2}{9x^3}(x^2+1)^{\frac{3}{2}}\left(1-3\ln\left(\sqrt{\frac{x^2+1}{x^2}}\right)\right) + C$	B1
		[12]
		[12 marks]