Question	Working	Answer	Mark	Notes
23 (a)	$y = \frac{\sqrt{x^2+k^2}}{x}, x^2y^2 = x^2+k^2 \quad x^2(y^2-1) = k^2$		3	M1 for squaring and rearranging correctly to the form $x^2(y^2-1) = k^2$
	$\frac{k}{\sqrt{p^2-1}} = k$			M1 (dep) for "$f^{-1}(p)$" = k
		$\sqrt{2}$		A1
	Alternative method			
	$p = f(k)$			M1
	$p = \frac{\sqrt{k^2+k^2}}{k}$			M1
		$\sqrt{2}$		A1
(b)	$(gf(a) =)\left(\frac{\sqrt{a^2+k^2}}{a}\right)^2$ or $(gf(x) =)\left(\frac{\sqrt{x^2+k^2}}{x}\right)^2$		3	M1
	$ka^2 - a^2 = k^2$			M1 (dep) for rearranging gf = k and isolating correctly the terms in a^2
		$\frac{k}{\sqrt{k-1}}$		A1 oe eg $\sqrt{\frac{k^2}{k-1}}$

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