Name:

Please differentiate the following functions: $a(x) = x^4 - 5x^3 + 81$, $b(x) = 2\sqrt{x} - \sqrt[3]{x^2} + \frac{3}{x^3}$, $c(x) = \frac{x+1}{3x-1}$, $d(x) = \sqrt{x}\cos x$, $e(x) = \frac{\cos x}{2\sin x} - \frac{0.5}{\tan x}$, $f(x) = \sqrt{x^2 + 6}$, $g(x) = \sqrt{x^2 + \sqrt{x}}$, $h(x) = (x^3 - 1)^8 (t^4 + 1)^5 (4x^2 + 5)^{10}$, $i(x) = \sin^2(x^3)$, $j(x) = \sqrt{\frac{x^2+1}{x^2-5}}$. Circle each answer (no need to simplify), no partial credit will be given, no calculators are allowed, n wrong answers will give $\max\{5 - \frac{n^2}{2}, 0\}$ points.