Neatly show all of your work on the quiz.

I. Find the indicated derivatives. Do not simplify your answers. (4 points each, 16 total)

(a) $l(x) = (x^2 - 1)(x^2 + 4)$, $l'(x) = ?$

(b) $y = \dfrac{x^4 - x^2 e^x + 4}{x^2}$, $\dfrac{dy}{dx} = ?$

(c) $u = \sqrt[5]{t^3} - \sqrt[3]{t^5}$, $\dfrac{du}{dt} = ?$

(d) $f(x) = \dfrac{4}{x^3} + \dfrac{1}{\sqrt{x}}$, $\dfrac{d}{dx} f(x) = ?$

II. The line l is tangent to the graph of $y = x^3 - 2x^2 + 3$ at $x = 2$ (please see the figure below). Find the coordinates of the point where the line crosses the x axis. (4 points)