TMATH 124: Quiz 4

You may use any work of yours that you made from last week. This includes, practice book problems and worked out WebAssign problems. This *does not* include photocopies of notes from the book or tutorials shown on WebAssign. Graphing calculators are also not allowed. In short, you are only allowed to use *work* that you created.

Show *all* your work (numerically, algebraically, or geometrically) for each and simplify. No credit is given without supporting work.

1. [2.5 each] Differentiate each of the following. Please do *not* simplify for this problem.
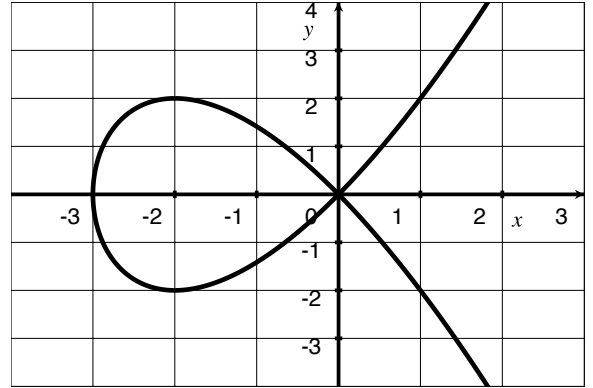
$$y = (3x - 5)^4(7x^2 - 4)^{-3}$$

$$y = 2^{4-x^2}$$

2. Consider the curve sometimes called the L'Hospital's cubic determined by the relation

$$y^2 = x^3 + 3x^2$$

(a) [2] Use implicit differentiation to find $\dfrac{dy}{dx}$.

(b) [3] Find the equation of the line tangent to L'Hospital's curve when $x = -1$ and $y < 0$.