MATH 165F2 FALL 2011 PRACTICE TEST #1

Write clearly. All questions carry equal weight.

(1) Find y'' for $y = (\cos^3 x^2)$.

(2) Find $\frac{dy}{dx}$ if $2x^2 - y^{2/3} = 3$.

(3) At a time of t seconds, an object is located at a distance of $t^5 - 5t^4$ meters to the right of the origin. Over what time interval is it moving to the left?

(4) A 50 ft. ladder is leaning squarely against a vertical wall. Its base is sliding over smooth, level ground, away from the wall at a speed of 4 ft./sec. How fast is the top of the ladder sliding down the wall, if the base of the ladder is 30 ft. away from the wall?