Review for Quiz 2.2

Eliminate negative exponents from answers.

No common denominator needed in answers.

No graphing calculator.

Find an equation for the tangent line to the graph of $f(x) = -2x^2 = 2x + 3$ **at the point where** *x = 1.*

Find $\dfrac{dy}{dx}$ **for** $y = \dfrac{\sqrt{x^3} - 4}{x}$

Find the point(s) where $f(x) = x^4 - 3x$ **has a horizontal tangent line.**

Find $f'(x)$ **for** $f(x) = x(x^3 + 1) + 2\cos x$

An object is dropped from the top of a 240 foot building with an initial velocity of *- 32ft/sec*

a) Write the position function to represent the movement of this object.

b) What is the velocity at 1 second?

c) When does the object hit the ground?

d) What is the velocity upon impact with the ground?