QTips: Quiz Tips

1) You’ll need to know the definitions for cosh and sinh.
2) You need to be able to differentiate functions like $\sqrt{x} \ln x$
3) You’ll need to be able to find critical points of functions like

$$\frac{2 - 3 \ln x}{x^2}$$

4) You’ll need to know how to use the chain rule to differentiate implicitly: the following should be clear to you:

$$\frac{d}{dx} \ln(x + y) = \frac{1 + \frac{dy}{dx}}{x + y}$$

5) In 4), you’d then need to solve the equation

$$\frac{1 + \frac{dy}{dx}}{x + y} = 1 - \frac{dy}{dx}$$

6) In 5), once you’ve solved for $\frac{dy}{dx}$, you need to be able to find critical points. For many student’s who’ve had calculus, this will be new, so you need tp practice and see the examples in class, in TA session, and on the 14U problems.

For example, if $y = \sin(x + y)$, we saw

$$\frac{dy}{dx} = \frac{\cos(x + y)}{1 - \cos(x + y)}$$

How would you find the pairs $P(c, d)$ that are the critical points?