

Math 1A
Quiz 5 - September 30, 2009

Name:

1. Find the derivative of the following functions:

(a) $\frac{e^x}{(x+1)(x-2)}$

(b) $(1 + \tan(e^x + 2x))^{10}$

2. Draw the graph of a curve which satisfies:

$$f(0) = 0,$$

$$f(1) = 0,$$

$$f'(0) = -1,$$

$$f'(1) = 0.$$

3. Find the equation of a cubic polynomial (degree 3) which has a horizontal tangent line at the point $(0, 0)$ and a tangent line of slope 2 at the point $(1, 2)$. (Hint: Write $f(x) = ax^3 + bx^2 + cx + d$ and try to figure out what a, b, c, d are from the given information.)