## Remember to show all of your work.

**Problem 1.** Find the derivative of each of the following functions (no need to simplify your answer)

• 
$$f(x) = \frac{x^4 + 3x^2 - x + 16}{3e^x}$$

$$f(x) = \cos(x)\cot(x)$$

**Problem 2.** Find the equation of the tangent line of the function  $f(x) = 2\sqrt{x}$  at x = 9