Math 135, Quiz #6, March 10, 2014

1. Confirm that the point $(1, 0)$ lies on the curve $x^3 y + x e^y + y^5 - 1 = 0$. Find the equation of the tangent line at this point.

2. Two runners meet up at a certain point at the start of a run. Alice runs at 8 miles per hour due North and Bob runs at 6 miles per hour due East. At what rate is the distance between Alice and Bob changing half an hour into their run?