Please sign your name: _____

Math 335-002 * Spring 2015 * Quiz #4

1. Make a rough sketch of these space-curves, along with the tangent vector at the end-point t=10:

   (a) $\mathbf{c}(t) = \left(e^2,\ \ t\right),\quad t \in (0.1, 10)$

   (b) $\mathbf{c}(t) = \left(\frac{2}{t},\ t\right),\quad t \in (0.1, 10)$

   Hint: both are simple, standard curves

2. Use quadratic approximation near the origin ($\mathbf{r}_o$=(0, 0)) to estimate the value of $f(\mathbf{r}) = \ln\left(\cos x - 3y\right)$ at point $\mathbf{r}$ = (0.2, 0.01). Use any method you like.