Q1. Convert the curve $x = \tan^2 \theta$, $y = -\sec \theta$, $-\frac{\pi}{2} < \theta < \frac{\pi}{2}$ into Cartesian equations. Sketch the curve with the direction of the motion.

Q2. Find equations of the tangents to the curve $x = 3t^2 + 1$, $y = 2t^3 + 1$ that pass through the point $(4,3)$. 
Q3 Find the area enclosed by the x-axis and by the curve $x = 1 + \exp(t)$, $y = t - t^2$. 