Math 201-133 Quiz 1 (B)

Name:.....ID#:.....Sec:.....Ser:.....

Q.1: Sketch the graph of the parametric equations $x = t^2 - 1,\ y = 5 - 3t$ and mark the direction in which the curve is traced for $-3 \leq t \leq 3$. Find equation of tangent line to the curve at $t = 1$. Also eliminate the parameter t to find corresponding cartesian equation.

t	x	y

Q.2: Find the exact length of the curve $x = 3 + 6t^2,\ y = 1 + 4t^3$ for $0 \leq t \leq 1$

Q.3: Graph the set of points whose polar coordinates satisfy $\frac{\pi}{4} \leq \theta \leq \frac{3\pi}{4}$ and $1 \leq r \leq 2$.

Q.4: Find the corresponding cartesian equation for the polar equation $r^2 \cos(2\theta) = 1$.

Q.5: Find the corresponding polar equation for the cartesian equation $(x+3)^2 + (y-1)^2 = 9$.