Math 53 - Multivariable Calculus

Quiz # 1

January 20th, 2012

Exercise 1. *Sketch the curve given by $x = 1 + \sqrt{t}$, $y = t^2 - 4t$, where $0 \leq t \leq 5$, and indicate the orientation of the curve (i.e., indicate with an arrow the direction in which the curve is traced as t increases).*

Exercise 2. *Describe the motion of a particle with position $\big(x(t), y(t)\big)$, where $x(t) = 5\sin(t)$, $y(t) = 2\cos(t)$ and $-\pi \leq t \leq 5\pi$.*

Exercise 3. *Find the parametric equations for the path of a particle that moves once counterclockwise around the circle $x^2 + (y - 1)^2 = 4$ starting at $(2, 1)$.*