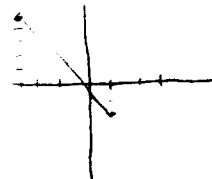




Calculus IV Quiz 3 Spring 1999 3/29/99

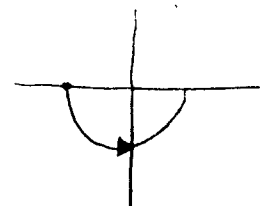
1. Give parametric equations $x(t)$, $y(t)$, and bounds for t that produce a path from $(1,-2)$ to $(-3,5)$.

$$\begin{aligned} \underline{x(t) = 1 - 4t} \\ \underline{y(t) = -2 + 7t} \end{aligned} \quad \underline{0 \leq t \leq 1}$$



2. Give parametric equations $x(t)$, $y(t)$, and bounds for t that produce the lower half of a circle (centered at the origin) of radius 7 traversed counterclockwise.

$$\begin{aligned} \underline{x(t) = 7 \cos t} \\ \underline{y(t) = 7 \sin t} \end{aligned} \quad \underline{\pi \leq t \leq 2\pi}$$



3. Plot the vector field $\mathbf{F}(x,y) = \mathbf{i} + y\mathbf{j}$ for the points $(0,0)$, $(0,3)$, $(0,-3)$, $(2,0)$, $(2,3)$ and $(2,-3)$.

$$\begin{aligned} \underline{\mathbf{F}(x,y) = \mathbf{i} + y\mathbf{j}} \\ \underline{f(0,0) = \langle 1, 0 \rangle} \\ \underline{f(0,3) = \langle 1, 3 \rangle} \\ \underline{f(0,-3) = \langle 1, -3 \rangle} \\ \underline{f(2,0) = \langle 1, 0 \rangle} \\ \underline{f(2,3) = \langle 1, 3 \rangle} \\ \underline{f(2,-3) = \langle 1, -3 \rangle} \end{aligned}$$

