

(Easier) Practice Quiz 4 Calc 3 11/1/2011

1. Give parametric equations $x(t)$, $y(t)$, $z(t)$ and bounds for t that produce a path from $(3, 0, 1)$ to $(5, 7, 1)$.

$$x(t) = 3 + 2t$$

$$y(t) = 7t$$

$$z(t) = 1$$

$$\text{for } 0 \leq t \leq 1$$

2. Give parametric equations $x(t)$, $y(t)$, $z(t)$ and bounds for t that produce a unit circle centered at the origin in the plane $z = 0$ beginning at $(1, 0, 0)$.

$$x(t) = \cos t$$

$$y(t) = \sin t$$

$$z(t) = 0$$

$$\text{for } 0 \leq t \leq 2\pi$$

(Harder) Practice Quiz 4 Calc 3 11/1/2011

1. Give parametric equations $x(t)$, $y(t)$, $z(t)$, and bounds for t that produce a path from $(-2, 7, 1)$ to (a, b, c) .

$$x(t) = -2 + (a + 2)t$$

$$y(t) = 7 + (b - 7)t$$

$$z(t) = 1 + (c - 1)t$$

$$\text{for } 0 \leq t \leq 1$$

2. Give parametric equations $x(t)$, $y(t)$, $z(t)$ and bounds for t that produce an arc of a circle centered at $(0, 0, 3)$ in the plane $z = 3$ of radius a beginning at $(0, a, 3)$ and continuing counterclockwise through n quadrants.

$$x(t) = a \cos t$$

$$y(t) = a \sin t$$

$$z(t) = 3$$

$$\text{for } \pi/2 \leq t \leq \pi/2 + n \pi/2$$