Quiz 6 Calculus 3 10/28/2009

Each problem is worth 5 points. Clear and complete justification is required for full credit.

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

$\langle 0, 7, -6 \rangle$

$x(t) = 3$

$y(t) = 7t$

$z(t) = -6t + 1$

$0 \le t \le 1$

Test

$t = 0$

$x(0) = 3$

$y(0) = 0$

$z(0) = 1$

$t = 1$

$x(1) = 3$

$y(1) = 7$

$z(1) = -5$

Excellent!

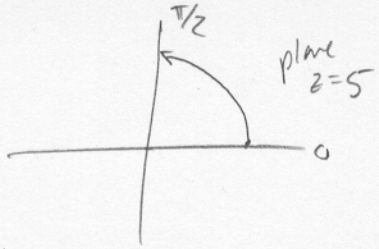
2. Give parametric equations x(t), y(t), z(t) and bounds for t that produce a quarter of a circle with radius 3 in the plane $z = 5$ beginning at (3, 0, 5) and ending at (0, 3, 5).

$x(t) = 3\cos(t)$

$y(t) = 3\sin(t)$

$z(t) = 5$

$0 \le t \le \pi/2$



Great