Quiz 3 Calculus 3 10/31/17

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

1. A black cat runs along a line segment from (3, –4) to (1, –3). Give equations x(t), y(t) and bounds for t to parametrize this path.

$\vec{v} = \langle -2, 1 \rangle$

$x(t) = 3 - 2t$

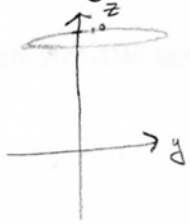
$y(t) = -4 + 1t$

for $0 \le t \le 1$

Good

2. A really scary bat is flying in circles 10 feet above the ground. Give parametric equations x(t), y(t), z(t) and bounds for t that produce a circle with radius 5 feet centered at (0,0,10) and traveling two complete times around the circle.

(x, y, z)

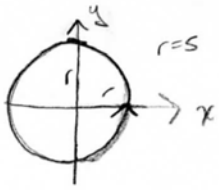


$z(t) = 10$

$x(t) = 5\cos t$

$y(t) = 5\sin t$

$0 \le t \le 4\pi$



Great