

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 $(0, -2, 10)$ to $(5, -3, 7)$.

$$\underline{x = 0 + 5t}$$

$$\underline{y = -2 - t}$$

$$\underline{z = 10 - 3t}$$

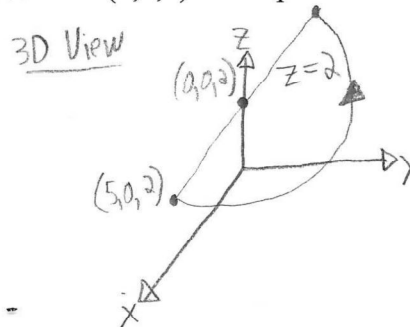
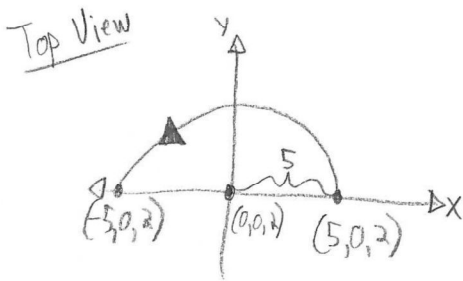
$$\underline{0 \leq t \leq 1}$$

Excellent!

$$\begin{aligned} x(0) &= 0 \\ y(0) &= -2 \\ z(0) &= 10 \end{aligned}$$

$$\begin{aligned} x(1) &= 5 \\ y(1) &= -3 \\ z(1) &= 7 \end{aligned}$$

2. Give parametric equations $x(t)$, $y(t)$, $z(t)$ and bounds for t that produce the top half of a counterclockwise circle with radius 5 centered at $(0,0,2)$ in the plane $z = 2$ starting at $(5,0,2)$ and ending at $(-5,0,2)$.



$$\begin{aligned} x(t) &= 5 \cos t \\ y(t) &= 5 \sin t \\ z(t) &= 2 \end{aligned}$$

for $0 \leq t \leq \pi$

Great

Hope you enjoy the funny picture!

