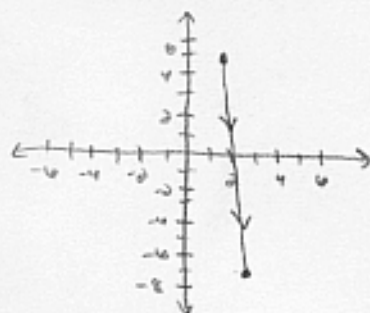


Each problem is worth 5 points. Show complete justification for full credit.

1. Give parametric equations $x(t)$, $y(t)$, and bounds for t that produce a line segment from $(2,5)$ to $(3,-7)$.



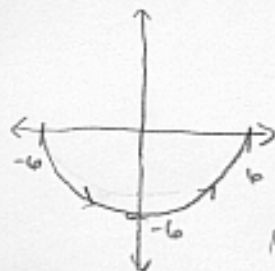
$$x(z) = 2 + 1z \quad \rightarrow \quad x(z) = 2 + z$$

$$y(z) = 5 + (-12)z \quad \rightarrow \quad y(z) = 5 - 12z$$

$$0 \leq z \leq 1$$

Great

2. Give parametric equations $x(t)$, $y(t)$, and bounds for t that produce the bottom half of a circle (centered at the origin) of radius 6 traversed counterclockwise.



$$x(z) = 6 \cos z$$

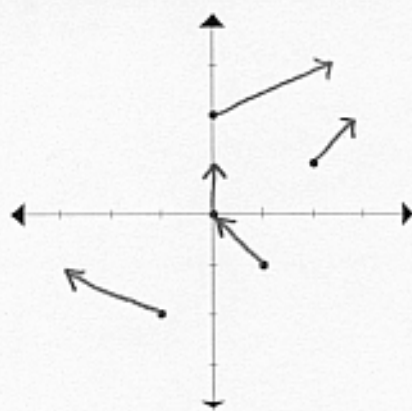
$$y(z) = 6 \sin z$$

$$\pi \leq z \leq 2\pi$$

$$x = r \cos \theta \quad y = r \sin \theta$$

Nice

3. Plot the vector field $F(x,y) = yi + j$ for the points $(0,0)$, $(2,1)$, $(0,2)$, $(1,-1)$, and $(-1,-2)$ indicated on the coordinate system below.



$$F(x,y) = \langle y, 1 \rangle$$

$$F(0,0) = \langle 0, 1 \rangle$$

$$F(2,1) = \langle 1, 1 \rangle$$

$$F(0,2) = \langle 2, 1 \rangle$$

$$F(1,-1) = \langle -1, 1 \rangle$$

$$F(-1,-2) = \langle -2, 1 \rangle$$

Excellent