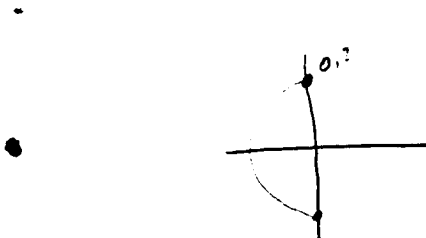1. Give parametric equations $x(t)$, $y(t)$, and bounds for t that produce a line segment from (2,-1) to (-2,3).

$$x(t) = 2 - 4t \qquad 0 \le t \le 1$$
$$y(t) = -1 + 4t$$

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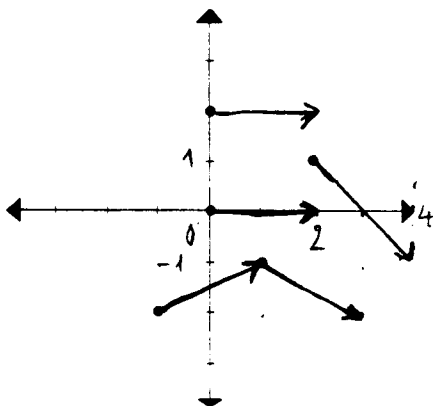

$$\frac{\pi}{2} \le t \le \frac{3\pi}{2}$$

$$X = 2\cos t$$

$$y = 2\sin t$$

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

$(0,0) \Rightarrow \vec{F}(0,0) = 2\vec{i}$

$(2,1) \Rightarrow \vec{F}(2,1) = 2\vec{i} - 2\vec{j}$

$(0,2) \Rightarrow \vec{F}(0,2) = 2\vec{i}$

$(1,-1) \Rightarrow \vec{F}(1,-1) = 2\vec{i} - \vec{j}$

$(-1,-2) \Rightarrow \vec{F}(-1,-2) = 2\vec{i} + \vec{j}$