MTH 265, Quiz #4, Fall 2018 Name _____

Instructions: Show all work. Use exact answers unless otherwise asked to round.

1. Sketch the vector field $\vec{F}(x,y) = y\hat{\imath} + (x+y)\hat{\jmath}$. Sketch at least 15 points by hand. Verify your graph with technology and include that graph with your solution.

2. Evaluate the line integrals on the indicated paths.
   a. $\int_C xyzds, C: x = 2\sin t, y = t, z = -2\cos t, 0 \le t \le \pi$

   b. $\int_C \vec{F} \cdot d\vec{r}, \vec{F}(x,y) = xy\hat{\imath} + 3y^2\hat{\jmath}, \vec{r}(t) = 11t^4\hat{\imath} + t^3\hat{\jmath}, 0 \le t \le 1$