MTH 265, Quiz #3, Fall 2018 Name _____

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

1. Find $\lim_{(x,y)\to(0,0)} \frac{xy^4}{x^2+y^8}$ if it exists or prove that it does not.

2. Sketch the graph of the vector-valued function $\vec{r}(t) = \cos t\,\hat{\imath} - t\hat{\jmath} + 2\sin t\,\hat{k}$. Use 10 points, and at least 2 full cycles.

3. Using the function in #2, find the following:
   a. $\vec{r}\,'(t)$

   b. $\int r(t)dt$