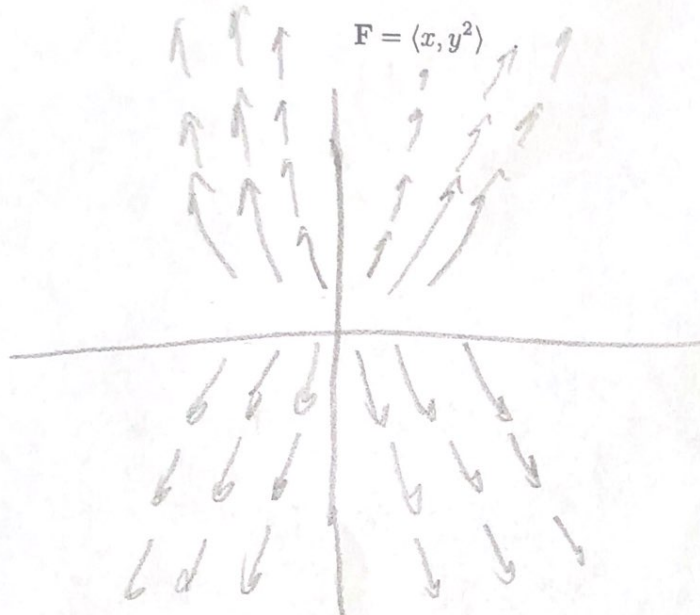


"QUIZ" for Lecture 17

NAME: (print!) Andrew King Section: 23

E-MAIL SCANNED .pdf OF COMPLETED QUIZ to DrZcalc3@gmail.com (Attachment: q17FirstLast.pdf) ASAP BUT NO LATER THAN Nov. 5, 8:00pm

1. Sketch the vector planar vector field



2. Find a potential function for the vector field F

$$F = \langle y \cos(xy), x \cos(xy) \rangle$$

$$F = \nabla \phi$$

$$\frac{d\phi}{dx} = y \cos(xy)$$

$$\frac{d\phi}{dy} = x \cos(xy)$$

$$\phi(x, y) = \sin(xy)$$

$$\phi_x = \cos(xy) \cdot y = y \cos(xy)$$

$$\phi_y = \cos(xy) \cdot x = x \cos(xy)$$