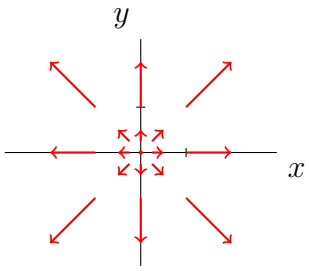
Assignment #7

Due on Wednesday, February 27, 2019

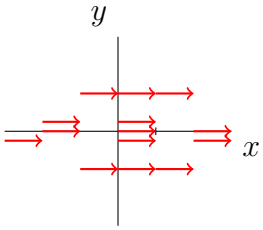
Read Section 4.2, on *Vectors Fields in the Plane,* in the class lecture notes at `http://pages.pomona.edu/~ajr04747/`

Do the following problems

1. Give a formula defining the vector field $F(x,y) = f(x,y)\hat{i} + g(x,y)\hat{j}$, where f and g are real valued functions defined on the plane, whose picture is shown below.



2. Give a formula defining the vector field $F(x,y) = f(x,y)\hat{i} + g(x,y)\hat{j}$, where f and g are real valued functions defined on the plane, whose picture is shown below.



3. Sketch the vector field $F(x,y) = 2\hat{i} + 3\hat{j}$,

4. Sketch the vector field $F(x,y) = y\hat{j}$,

5. Sketch the vector field $F(v) = \dfrac{1}{\|v\|}\, v$, where $v = x\hat{i} + y\hat{j} \neq (0,0)$.