

F12. For the two flows given by ...

$$\psi(x, y) = \arctan(y/x) \qquad \phi(x, y) = x^2 + y^2$$

- a) Determine the velocity fields, and sketch the streamlines.
- b) Determine the volume flow rate through a circle of radius r .
- c) Which of these flows is not feasible to set up in a lab? Explain.