

Math 241 C8

Name:

Quiz # 5

March 12, 2013

No electronic devices, notes, or interpersonal communication allowed.

Show work to get credit.

- (1) [10pts] Find all sources and sinks of $\mathbf{F}(x, y) = \left\langle \frac{y}{x^2 + y^2}, \frac{-x}{x^2 + y^2} \right\rangle$.

- (2) [10pts] Find the net flow of $\mathbf{F}(x, y) = \left\langle \frac{y}{x^2 + y^2}, \frac{-x}{x^2 + y^2} \right\rangle$ along the rectangle with vertices at $(-2, 1)$, $(3, 1)$, $(3, -4)$, and $(-2, -4)$.