# Math 233 - October 13, 2009

- When *and where* does a vector field has a potential function?
- What is different about the special vector field

$$G = \left( -\frac{y}{x^2 + y^2}, \frac{x}{x^2 + y^2} \right)$$

1. Compute the curl of the vector field. Find a potential function, if possible.

$$G = \left( -\frac{y}{x^2 + y^2}, \frac{x}{x^2 + y^2}, 0 \right)$$