

Name: _____ **MATH 210 Quiz 10 (Nov 18, 2005)** no calculators!

(1) Let $f(x, y) = x + y^2$ be the potential function. Find its corresponding gradient vector field $\vec{F}(x, y) = \nabla f(x, y)$.

Sketch the field.

(2) Let $\vec{F}(x, y, z) = \langle 1 + x, y, \cos(z) \rangle$. Show that this is a conservative vector field by finding its potential $f(x, y, z)$.