

Quiz 4

Name:

Winter 2011

Math 765

Define $p : \mathbb{R}^2 \rightarrow \mathbb{R}$ by $p(x, y) = x$. Suppose

- M^3 is a smooth 3-manifold,
- $f : M^3 \rightarrow \mathbb{R}^2$ is a smooth function, and
- $(0, 0)$ is a regular value of f .

Is it necessarily the case that $(p \circ f)^{-1}(0)$ is a submanifold of M^3 ?

Solution
