PSET 5 - DUE MARCH 10

1. 8.14:10 (6 points)

2. 8.17:6 - also prove f is not differentiable at $(0, 0)$. (6 points)

3. 8.17:10 (6 points)

4. Let $f : \mathbb{R}^n \to \mathbb{R}^m$ such that the inverse image of every open set is open. Prove f is continuous. (6 points)

5. Let $f : \mathbb{R}^n \to \mathbb{R}$ be a linear transformation. Prove that $T_{\mathbf{a}} = f$ for all $\mathbf{a} \in \mathbb{R}^n$. (6 points)

18.024 Multivariable Calculus with Theory
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