Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Take–home Quiz 2**

1. Consider the function
2. Find
3. Find
4. Find
5. If and and , then find for
6. Suppose
7. Find the directional derivative at in the direction
8. If you are standing a , in which direction would the function increase the most?
9. What is the steepest increase of at ?
10. Find all local max, min, and saddle points, if any, for