Partial Derivatives

Reading

Sections 15.4

Problems

- Practice Problems 15.4: 3, 5, 11, 13, 15, 17, 18, 25, 27
- Problems to turn in 15.4: 6, 12, 14, 16, 26

Topics to know

1. Linearization for functions of two variables, tangent plane. Why is there only one plane equation that makes sense?
2. Definition of a function being differentiable at a point.
3. Example of $f(x,y) = L(x,y) + e(x,y)$ decomposition for $f(x,y) = x^2 + 2x - xy$ at $(0,0)$. Also try another point, e.g. $(1,2)$
4. f is differentiable if both f_x and f_y exist and are continuous in a disc around the point of interest.
5. Various ways of writing the linear approximation.
6. Find point on which tangent plane is parallel to a given plane.