

# Partial Derivatives

## Reading

Sections 15.3

## Problems

- Practice Problems 15.3: 1, 2, 3, 7, 8, 9, 11, 12, 15, 17, 29, 31, 57, 59, 61
- Problems to turn in 15.3: 4, 10, 18, 32, 58
- Optional 15.3: 79, 80, 81

## Topics to know

1. Definition of partial derivatives
2. Multiple notations
3. Graphical interpretation
4. Chain rule for  $f(x, y) = F(u)$  and  $u = u(x, y)$
5. Using derivatives to estimate change
6. Estimating derivatives from contour maps
7. Higher order derivatives and Clairaut's Theorem