# Partial Derivatives

GROUP MEMBERS:

1. _____
2. _____
3. _____
4. _____

Problem: Learn how to calcuate partial derivatives.

Directions: One person works at a time. Person 1 does problem 1a**. Explain to the group what you are doing**. Write out your work and answer on the sheet. When done, ask whether everyone in the group understands. People in the group ask questions. Pass the sheet to person 2 who will follow the same procedure and do problem 1b. Then person 3 does 2b and so on.

For each of the following functions calculate $\frac{\partial f}{\partial x}$ , $\frac{\partial f}{\partial y}$

1. $f(x,y) = 4x + 3y$

a. $\frac{\partial f}{\partial x} =$

b. $\frac{\partial f}{\partial y} =$

2. $f(x,y) = x^2 + 3y^3$

a. $\frac{\partial f}{\partial x} =$

b. $\frac{\partial f}{\partial y} =$

3. $f(x,y) = 3x + 5$

a. $\frac{\partial f}{\partial x} =$

b. $\frac{\partial f}{\partial y} =$

4. $f(x,y) = 4\,x\,y$

a. $\frac{\partial f}{\partial x} =$

b. $\frac{\partial f}{\partial y} =$

5. $f(x,y) = 2\,x^2\,y^3$

a. $\frac{\partial f}{\partial x} =$

b. $\frac{\partial f}{\partial y} =$

6. $f(x,y) = \cos(2\,x - 4\,y)$

a. $\frac{\partial f}{\partial x} =$

b. $\frac{\partial f}{\partial y} =$

7. $f(x,y) = e^{(2\,x - y)}$

a. $\frac{\partial f}{\partial x} =$

b. $\frac{\partial f}{\partial y} =$

8. $f(x,y) = \sin(x^2 - 3\,y^2)$

a. $\frac{\partial f}{\partial x} =$

b. $\frac{\partial f}{\partial y} =$

Everybody do: $f(x,y) = \log( x^2 - 3 y)$