

Worksheet 01

MATH 16B GSI:TAO SU TU 08/29/2017

1 About the section

Section grade:

HW and Quiz: 20%.

About the section:

HW: assigned mainly via webwork.

14 Quizzes, you can drop 4 lowest scores.

A typical quiz=1 writing problem (10pts)+5 Multiple choice questions (2points each).

Note: there'll be a quiz next Tuesday.

2 Partial derivatives

1. Let $f(x, y) = xy$. Compute $\lim_{h \rightarrow 0} \frac{f(2+h, 3) - f(2, 3)}{h}$ and $\frac{\partial f}{\partial x}(2, 3)$. Compare your results.

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

(a) Compute $\frac{\partial^2 f}{\partial x \partial y}$ and $\frac{\partial^2 f}{\partial y \partial x}$, are they the same?

(b) Compute $\frac{\partial^3 f}{\partial x \partial x \partial y}$.

3. Let $f(x, y, z) = xze^{yz}$. Find $\frac{\partial f}{\partial x}$, $\frac{\partial f}{\partial y}$, $\frac{\partial f}{\partial z}$.