Math 203 Spring 2019 Professor MG
Classwork 21   Name: _____

Show all work and circle/box your final answer. All answers must be simplified unless stated otherwise.

(1) Find $\frac{\partial f}{\partial x}$ and $\frac{\partial f}{\partial y}$ for the following.

 (a) $f(x, y) = 6x^2y^2$

 (b) $f(x, y) = x^4 + 6\sqrt{y} - 10$

 (c) $f(x, y) = x^7 \ln(y^2) + \frac{9}{x^3} - \sqrt[7]{y^4}$

 (d) $f(x, y) = xe^{x^2y - 5y^3}$

(2) Find $\frac{\partial f}{\partial x}$, $\frac{\partial f}{\partial y}$, and $\frac{\partial f}{\partial z}$ for the following.

 (a) $f(x, y, z) = 4x^4y^3z^2 - 3e^{2x}$

 (b) $f(x, y, z) = x^3z^2 - 5xy^5z - x^2 - y^3$

 (c) $f(x, y, z) = 4x^3y^2 - e^zy^4 + \frac{z^3}{x^2} + 4y - x^{16}$