

Name: _____

Math 2030, Fall 2017, Quiz 5
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No calculators needed or allowed.

Let

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

1. Compute $\partial f/\partial x$ and $\partial f/\partial y$.
2. Find the tangent plane to $z = f(x, y)$ at $(x, y) = (1, 2)$.
3. Calculate the differential df . [At (x, y) , not just at $(1, 2)$.]
4. Use the tangent plane to estimate $f(1.2, 2.1)$.
5. Use df to estimate $f(1.2, 2.1)$.