

Name: _____

Math 2030, Fall 2017, Quiz 6
11 October 2017
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No calculators needed or allowed.

Let

$$f(x, y) = 4y - x^2y - y^2.$$

1. Find the tangent plane to $z = f(x, y)$ at $(x, y) = (1, 1)$.
2. Find the tangent plane to $z = f(x, y)$ at $(x, y) = (1, 2)$.
3. Find the tangent line to the level curve $2 = f(x, y)$ at $(x, y) = (1, 1)$.
4. Find the tangent line to the level curve $2 = f(x, y)$ at $(x, y) = (1, 2)$.