

**MATH 20C: FUNDAMENTALS OF CALCULUS II**  
**QUIZ #7**

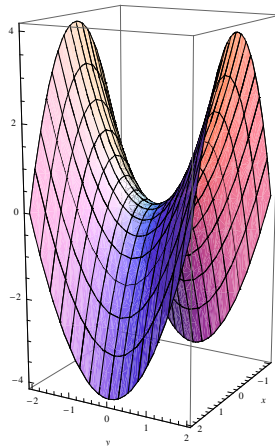
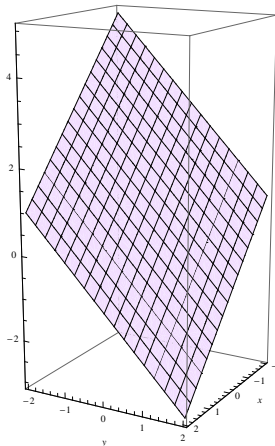
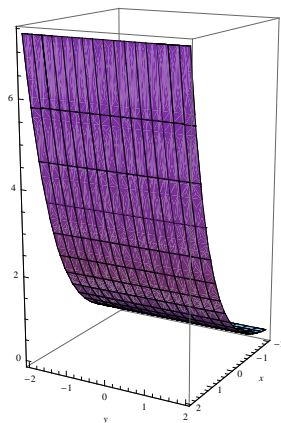
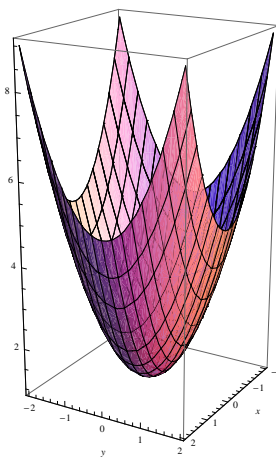
Name:

Please complete the following problem(s) in the space provided. You may use an approved calculator. You will have 15 minutes to complete the quiz.

Please include all relevant intermediate calculations and explain your work when appropriate.

**Problem 1.** Label each graph below with the corresponding equation.

- (a)  $f(x, y) = 1 - x - y$ .
- (b)  $f(x, y) = y^2 - x^2$ .
- (c)  $f(x, y) = e^x$ .
- (d)  $f(x, y) = x^2 + y^2 + 1$ .



**Problem 2.** Describe the cross section of  $f(x, y) = 1 + 2\sqrt{x^2 + y^2}$  at  $z = 3$ .

**Problem 3.** Compute the partial derivatives  $\frac{\partial f}{\partial x}$ ,  $\frac{\partial f}{\partial y}$  of  $f(x, y) = xy^4 - x^5y^2 + 15$  and evaluate them at the point  $(0, 1)$ .