

**“QUIZ” for Oct. 1, 2009**

**NAME:** (print!) \_\_\_\_\_ **Section:** \_\_\_\_\_

**E-MAIL ADDRESS:** (print!) \_\_\_\_\_

- 1.** Find  $\frac{\partial f}{\partial r}$  and  $\frac{\partial f}{\partial s}$  as **functions of  $r$  and  $s$**  , if

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

and the variables are related by  $x = r + 2s$  and  $y = 3r + 2s$ . You do not need to simplify!

- 2.** Find  $\frac{\partial z}{\partial x}$  and  $\frac{\partial z}{\partial y}$  if

$$x^2 + y^2 + z^2 = 5xyz + 1 \quad .$$