Name:_____

Section:_____

Quiz 6

1. Suppose that the maximum of $f(x, y)$ subject to the constraint $g(x, y)$ occurs at a point $P = (a, b)$ such that $\nabla f_P \neq 0$. Which of the following is true? (1 pt.)

   (a) ∇f_P is tangent to $g(x, y) = 0$ at P.

   (b) ∇f_P is orthogonal to $g(x, y) = 0$ at P.

2. Find the maximum and minimum values of the function $f(x, y) = xy$ subject to $4x^2 + 9y^2 = 32$. (9 pt.)