

Your Name:

Duration of the Quiz is 15 minutes. There are two problems, worth 20 points. Show all your work for full credit. Books, notes etc. are prohibited. Calculators are NOT permitted.

1. (i) Find and sketch the domain of the function.

$$f(x, y) = \sqrt{x-2} + \sqrt{y-1}$$

- (ii) Compute the derivative indicated.

$$f(x, y) = x \ln(y^2), \quad f_{yy}(2, 3)$$

2. (i) Describe the level curves of the function  $f(x, y) = x^2 - y^2$ .

(ii) Describe the level surfaces of the function  $f(x, y, z) = x + 3y + 5z$ .