NAME:

QUIZ 4 FOR MATH 2551 F1-F4, SEPTEMBER 19, 2018

This quiz should be taken without any notes and calculators. Time: 20 minutes. Show your work, otherwise credit cannot be given.

Problem 1: What is the domain of the following functions (2 points each)
a) $f(x,y) = \sqrt{y-x}$
The domain is given by $y \geq x$

b) $f(x,y) = \ln(x^2+y^2-4)$
The domain is given by $x^2+y^2 > 4$.

Problem 2: (3 points) Sketch the level curve at the heights $c = 1, 0, -1$ of the function $f(x,y) = xy$.

Problem 3: (1 point each) Which of the functions is continuous at $(0,0)$. You do not have to give a reason and there will be no partial credit.
a) $f(x,y) = \frac{x}{\sqrt{x^2+y^2}}$
Is not continuous

b) $f(x,y) = \frac{x^2}{\sqrt{x^2+y^2}}$
is continuous

c) $f(x,y) = \frac{xy}{|xy|}$
is not continuous.