Print your name: _____   Score

1. Suppose that X and Y are random variables with joint density function

$$f(x,y) = \begin{cases} 4xy & \text{if } 0 \le x \le 1, 0 \le y \le 1 \\ 0 & \text{otherwise} \end{cases}$$

Determine the probability that $X^2 + Y^2$ is bigger than 1.