

Instructions. Show all work, with clear logical steps. No work or hard-to-follow work will lose points.

Problem 1. (4 points) Find the domain of the following function.

$$f(x, y) = \sqrt{81 - x^2} + \sqrt{y^2 - 1}$$

Problem 2. (4 points) Compute f_x and f_y for the following function.

$$f(x, y) = e^{3xy^2} + 6y$$

Problem 3. (2 points) Write whatever you want here for 2 points. Leave it blank if you prefer to lose 2 points.