Q.1: Find and sketch the domain of the function \( f(x, y) = \sqrt{x^2 + y^2} - 1 + \ln(9 - x^2 - y^2). \)

Q.2: Show that the limit \( \lim_{(x, y) \to (0, 0)} \frac{4xy}{3x^2 + 5y^2} \) does not exist.

Q.3: Find all the second order partial derivatives of \( f(x, y) = \ln(3x - 5y). \)