Q1) Find the absolute maximum and minimum of $f(x,y) = x + y - xy$ on the closed triangular region with vertices $(0,0), (0,2)$ and $(4,0)$.

Q2) Use Lagrange multipliers to find the maximum and minimum values of the function $f(x,y) = 3x + y$ subject to the constraint $x^2 + y^2 = 10$.