**1.** Maximize the following function using **Newton’s Method:**

Use a non-zero initial value of x and 0.0001 as relative approximation error.

**2.** Consider the **linear programming problem**:  
Maximize f(x, y) =   
subject to  
7x + 11y ≤ 77  
10x + 8y ≤ 80  
x ≤ 9

y ≤ 6  
x ≥ 0  
y ≥ 0  
Obtain the solution:  
**(a)** Graphically.  
**(b)** Using the simplex method.