Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Let **x** be a column vector in , 

1. Gradient of the multivariate function  is defined as:
2. Give a definition of the directional derivative 
3. Write down a relationship between the directional derivative and the gradient.
4. The gradient  is characterised by what property?
5. Let , write down the Jacobian matrix
6. If , can we state that 
7. Define Newton’s method in a multidimensional space