* 1. **Homework**

**1. Derive the analytical version of the Newton-Raphson algorithm (including and ) for each expression below (separately). For each expression below, implement the Newton-Raphson algorithm, and find at least one root for each non-linear function below. Also plot around the solution(s). Prepare a data table with values for , , , and for each iteration.**

**2. Write a R code for and . Run the Newthon-Raphson method and search for the solution. Prepare a table with values for , , , and for each iteration. Explain what is happening during the iterations. Is the algorithm converging? Why or why not? Choose your initial values carefully.**