Exercise 01

Please attempt all of the following problems before the due date. Your grade on this assignment will be calculated from the best two answers.

Problem 01.1

Consider the function defined by $f(x) = 4x + 5$ for any real number $x$. Show that $f$ is not homogeneously linear but the function $f - f(0)$ is.

Answer 01.1

Put all of your calculations here. When you have completed all of the problems, wrap the resulting file and e-mail it to me at rgowdy@saturn.vcu.edu.

Problem 01.2

Show that every real-valued homogeneously linear function of one real number has the form $f(x) = ax$ where $a$ is some real number.

Answer 01.2

Put all of your calculations here. When you have completed all of the problems, wrap the resulting file and e-mail it to me at rgowdy@saturn.vcu.edu.

Problem 01.3

Show that every homogeneously anti-linear function of one complex number has the form $f(z) = az^*$ where $a$ is some complex number.

Answer 01.3

Put all of your calculations here. When you have completed all of the problems, wrap the resulting file and e-mail it to me at rgowdy@saturn.vcu.edu.