**MATH 1073 Calculus I**

**Assignment 1**

(Due: 19th, Sep, 2019)

1. (a) If and , is it true that *f* = *g*?  
   (b) If and , is it true that *f* = *g*?
2. (a) If *f* and *g* are both even functions, is *f+g* even? If *f* and *g* are both odd functions, is *f+g* odd? What if *f* is even and *g* is odd? Justify your answers.
3. (b) If *f* and *g* are both even functions, is the product *fg* even? If *f* and *g* are both odd functions, is *fg* odd? What if *f* is even and *g* is odd? Justify your answers.
4. For each scatter plot, decide what type of function you might choose as a model for the data. Explain your choices.





(d)

(c)

1. Construct the composite functions *f(g(x))*, and specify the domain for each of the following:

(1) , ;

(2) , ；

(3) ,；

(4) ,

1. (a) Let, find ；

(b) Let, find 

1. Solve the Equation (Hint: It’s an unusual solution, in that it’s more than just a couple of numbers). Then, solve the equation . (Hint: if you make the correct substitution, you can use your solution to the previous equation).
2. Find the range and domain of function.
3. Find all intercepts of the given function.
4. Show that and g are inverse functions. Graph both functions.
5. Use a triangle to simplify each expression. Where applicable, state the range of x’s for which the simplification holds.

(a) (b)