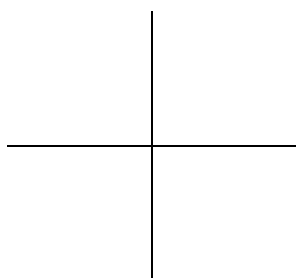


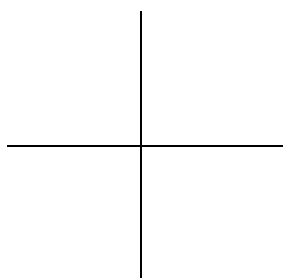
This test covers chapter two of *College Algebra—Graphing and Data Analysis* by Sullivan and Sullivan. No credit will be given for answers that I can not find or can not read. Unless otherwise indicated, each part of each problem is worth five points.

1. Complete the following definition: A _____ from a set X into a set Y is a rule or a correspondence that associates with each element of X _____ of Y. (5 points)

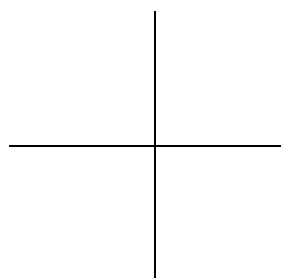
2. For the following graphs **circle yes or no** to indicate if they are functions or not. (1 point each)



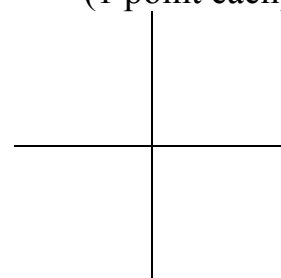
function: yes no



function: yes no



function: yes no



function: yes no

3. Use the graph of $f(x)$ on the right to find the following

a. $f(-1) =$

(2 points)

b. The range of f

c. The interval(s) on which f is increasing

d. The x -intercepts

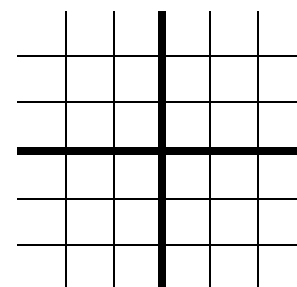
(2 points)

e. The y -intercepts

(2 points)

f. Is f even odd or neither?

(2 points)



9. State the domain of the following composite functions

a. $f \circ g(x)$ where $f(x) = 1/x$ and $g(x) = 2/x$.

b. $f \circ g(x)$ where $f(x) = ax + b$ and $g(x) = cx + d$

10. The price p and the quantity x sold of a certain product obey the demand equation

$$p = -3x + 240 \quad 0 \leq x \leq 80.$$

a. Express the revenue $R = xp$ as a function of x .

b. Graph $R(x)$ on your calculator (you do not need to show it on this test). For **what value of x** is the revenue the largest?

c. What is the maximum revenue? (2 points)

d. What price should be charged to obtain the maximum revenue? (2 points)