Classwork 10
Intermediate Algebra MTH 35
Topic: Functions and Graphs

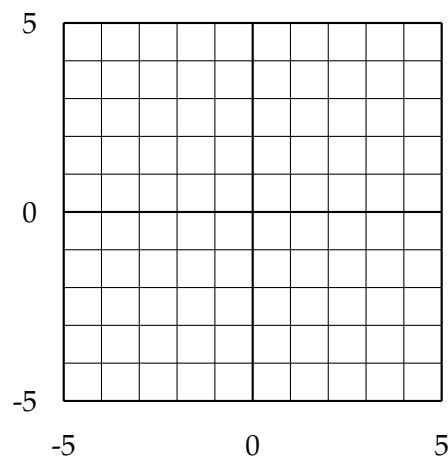College of
Staten Island
The City University of New York

Name: _____

1.

$$f(x) = \begin{cases} x - 4 & \text{if} & x \geq 4 \\ 1 - 2x & \text{if} & -4 \leq x < 4 \\ x + 4 & \text{if} & x < -4 \end{cases}$$
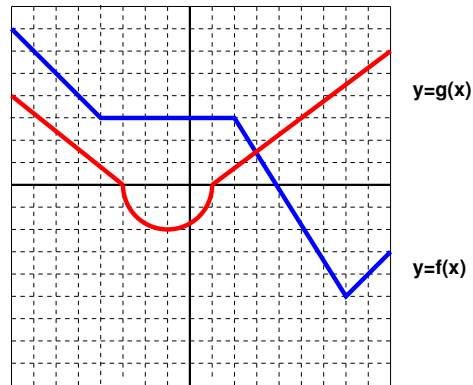
a. Evaluate $f(5)$, $f(-5)$, $f(1)$, $f(-2)$.

b. On which intervals is the $f(x)$ increasing and decreasing ?

2.

$$f(x) = \begin{cases} 1 + x & \text{if} & x \geq 1 \\ 2 - x & \text{if} & x < 1 \end{cases}$$

Sketch graph of $y = f(x)$ on the interval $[-5, 5]$.

3. The graph of $y = f(x)$ and $y = g(x)$ is as shown.

Find the following values:

a. $(f + g)(3) =$

b. $(f - g)(5) =$

c. $2f(-2) =$

d. $f \circ g(2) =$

e. $f \circ g(-1) =$

f. $g \circ f(2) =$

g. $g \circ f(9) =$