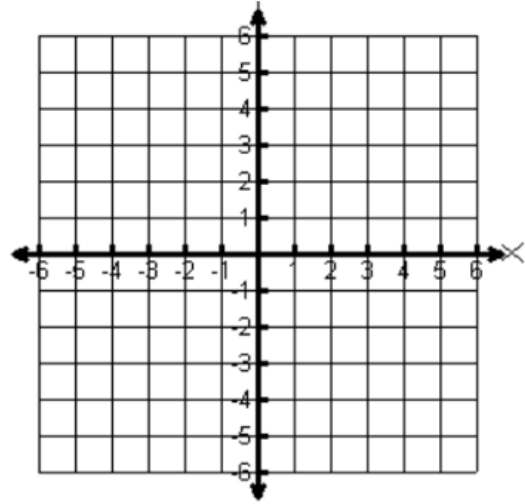


Name: _____ Hr: _____

4.5 Graphing Piecewise Functions with Three Pieces

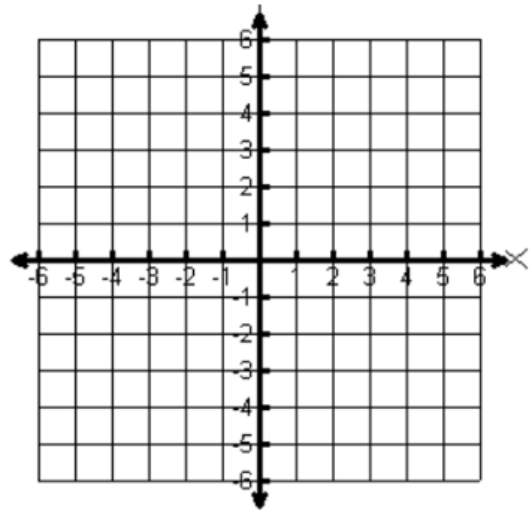
1.
$$f(x) = \begin{cases} 2x+3, & x < -1 \\ |x|-5, & -1 \leq x < 2 \\ 1, & x \geq 2 \end{cases}$$

evaluate: $f(1) =$ _____
 $f(6) =$ _____
 $f(0) =$ _____



2.
$$f(x) = \begin{cases} 2, & x \geq 5 \\ -2x, & -2 \leq x < 3 \\ 2-x^2, & x < -2 \end{cases}$$

evaluate: $f(-4) =$ _____
 $f(-2) =$ _____
 $f(1) =$ _____

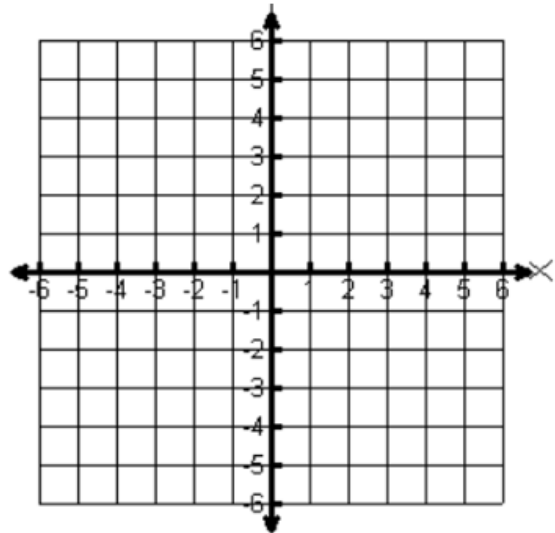


3.
$$f(x) = \begin{cases} x+5, & x < -2 \\ (x+1)^2+2, & -2 \leq x \leq 2 \\ -2x-1, & x > 2 \end{cases}$$

$f(3) =$ _____

evaluate: $f(-4) =$ _____

$f(-2) =$ _____



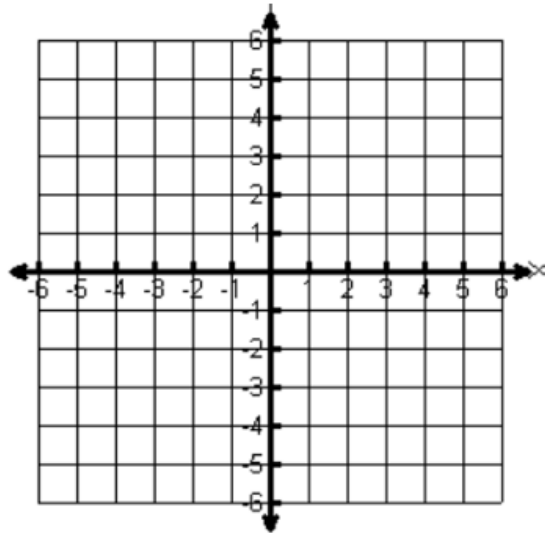
5.
$$f(x) = \begin{cases} 2x+1, & x \leq 1 \\ x^2+3, & 1 < x < 2 \\ -x^2, & x \geq 2 \end{cases}$$

$f(-2) =$

evaluate:

$f(6) =$

$f(1) =$



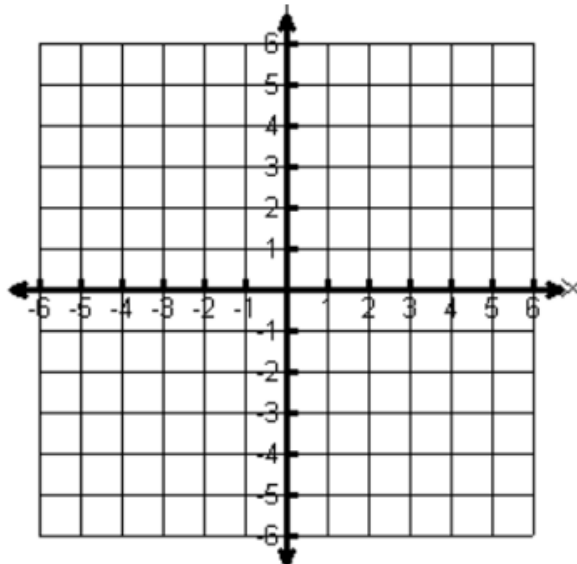
6.
$$f(x) = \begin{cases} x^2-1, & x \leq 0 \\ 2x-1, & 0 < x \leq 5 \\ 3, & x > 5 \end{cases}$$

$f(-2) =$

evaluate:

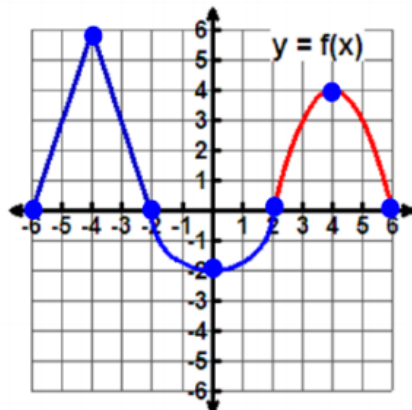
$f(0) =$

$f(5) =$

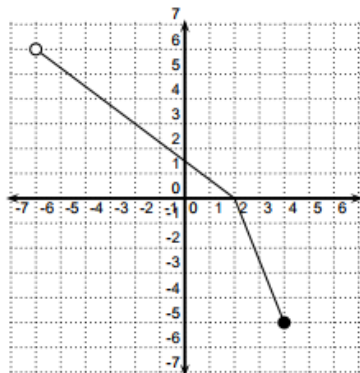


Part II. Write equations for the piecewise functions whose graphs are show below.

7.



8.

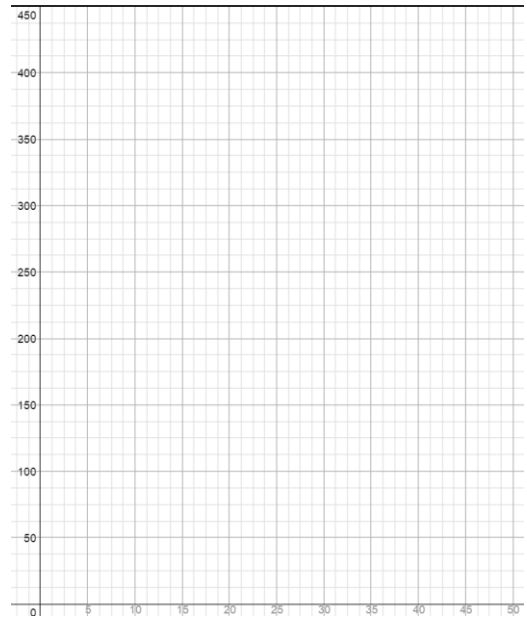


9. You have a summer job that pays time and a half for overtime. (i.e. if you work more than 40 hours). After that it is 1.5 times your hourly rate of \$7.00/hr.

a. Write a piecewise function that gives your weekly pay P in terms of the number of hours you worked h .

b. Graph your piecewise function.

c. How much will you make if you work 45 hours?



10. Write a piecewise function to represent the following internet providers' service charges.

Monthly Service charge: \$18.00

First 50 hours of usage: Free

Next 50 hours of usage: \$0.25/hour

Over 100 hours of usage: \$1.00/hour

11. During a nine hour snow storm it snows at a rate of one inch per hour for the first two hours, at a rate of two inches per hour for the next six hours, and at a rate of one inch per hour for the final hour.

a. Write the piecewise function.

b. Graph the piecewise function.
Label your axes.

c. How much snow is there on the ground after seven hours?

