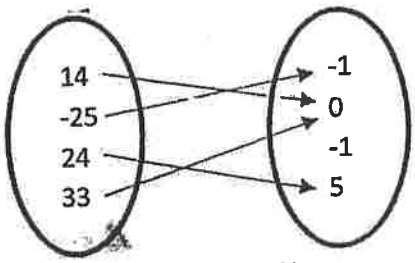
5.1 Function Notation

Corrective Assignment

Determine if the following are functions. For each function, tell what the domain and range is. If it is not a function, explain why.

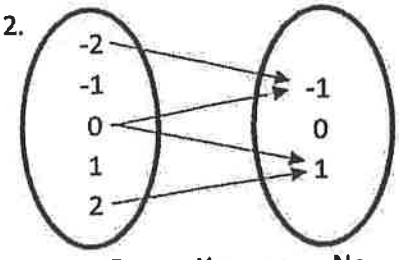
1.



Function? Yes or No
Domain:

Range:

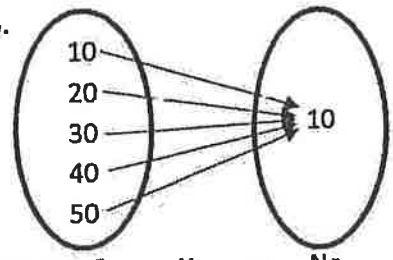
2.



Function? Yes or No
Domain:

Range:

3.



Function? Yes or No
Domain:

Range:

4. (2,2), (4, 2), (5, 2), (2, 2), (6, 2)

Function? Yes or No
Domain:

Range:

Fb

5. The assignment of license plates to cars in a state.

Function? Yes or No
Domain:

Range:

6. $F(x) = 2x^2 - 2x^2$

Function? Yes or No
Domain:

Range:

7. Let $W(a) = a^3 - a^2$.

a	0	1	2	3	4	h
$W(a)$						

a. Complete the following table:

b. Tell the domain and range of the function *(Hint: Based off of the equation, not the table!)*

c. Suppose $W(a) = 18$. Find a.

d. Find $W(4)$

Let the functions $A(x) = 5x^2 - 2$, $B(x) = |x| + 2$ and $C(x) = \sqrt{x}$. Find the following:

11. $A(-2)$

12. $B(-2)$

13. $C(4)+A(3)$

14. $C(1) + C(100)$

15. Find x if $A(x) = 43$

16. Give the domain of $C(x)$

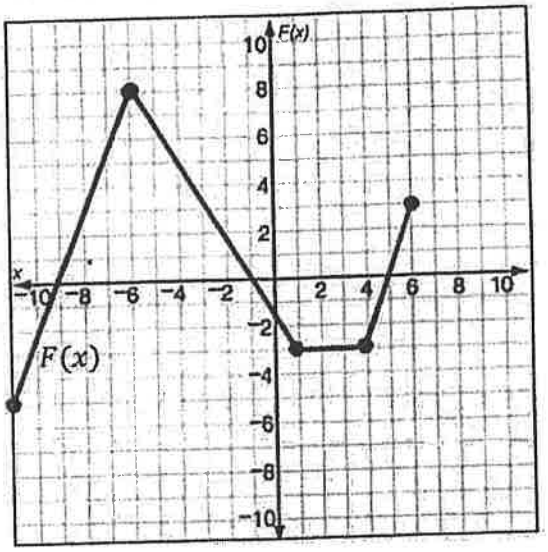
17. Find x if $B(x) = 21$

18. $A(12) - B(4)$

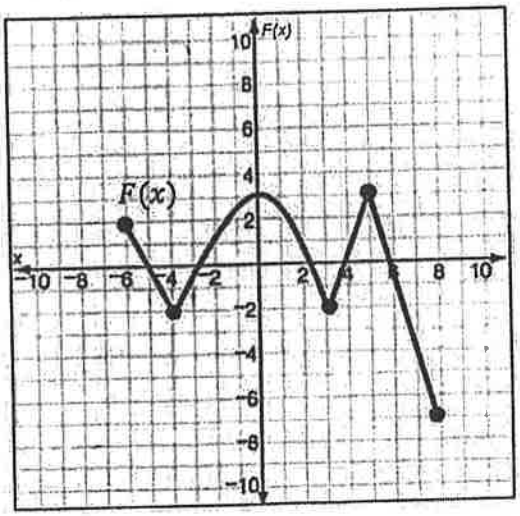
5.2 Graphs of Functions

Corrective Assignment

Find the values using the graph.



1. $F(3) =$
2. $F(0) =$
3. y-intercept =
4. x-intercepts =
5. Where is $F(x)$ decreasing?
6. Where is $F(x)$ negative?
7. Where is $F(x)$ increasing?
8. Where is $F(x)$ constant?
9. $F(-4) =$
10. $F(8) =$
11. If $F(x) = 0$, find x.
12. If $F(x) = -8$, find x.
13. If $F(x) = -5$, find x.
14. $F(-2) =$
15. What is the domain of $F(x)$?
16. What is the range of $F(x)$?
17. What is the maximum of $F(x)$?



18. What is the range of $F(x)$?
19. $F(8) =$
20. If $F(x) = -4$, find x.
21. Where is $F(x)$ decreasing?
22. What is the maximum of $F(x)$?
23. x-intercepts =
24. y-intercept =
25. If $F(x) = 0$, find x.
26. $F(-4) =$
27. Where is $F(x)$ increasing?
28. $F(2) =$
29. What is the domain of $F(x)$?
30. Where does $F(x)$ have a constant rate of change?
31. Where is $F(x)$ increasing?
32. If $F(x) = 6$, find x.
33. Where is $F(x)$ negative?
34. What is the minimum of $F(x)$?
35. $F(7) =$
36. What part(s) of the domain are nonlinear?
37. What part(s) of the domain are linear?
38. If $F(x) = 3$, find x.

5.3 Algebra I

Corrective Assignment

Use the piecewise function to evaluate the following.

1.

$$f(x)=\begin{cases}4x^2-1, & x\le -2\\ -x, & x>-2\end{cases}$$

a. $f(0)=$

b. $f(5)=$

c. $f(-2)=$

d. $f(-3)=$

2.

$$f(x)=\begin{cases}-7x+4x^2, & x\le -3\\ 8x, & -3<x\le 3\\ 7-x, & x>3\end{cases}$$

a. $f(-5)=$

b. $f(0.5)=$

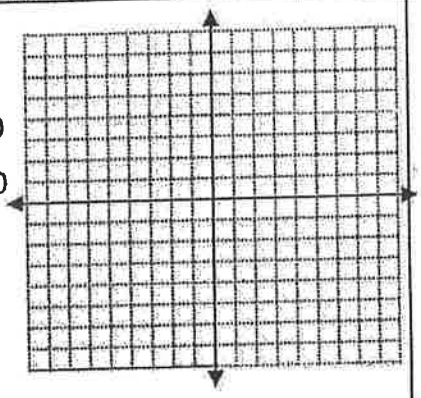
c. $f(0)=$

d. $f(3)=$

Graph the following piecewise functions.

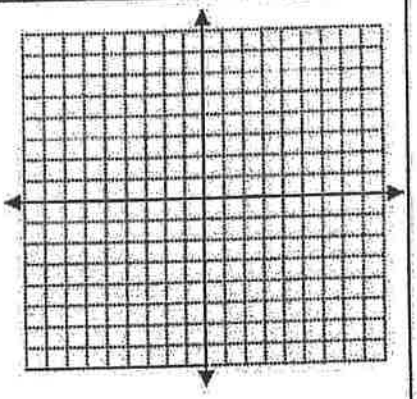
3.

$$f(x)=\begin{cases}2x+3, & x\le 0\\ \frac{1}{2}x-1, & x>0\end{cases}$$



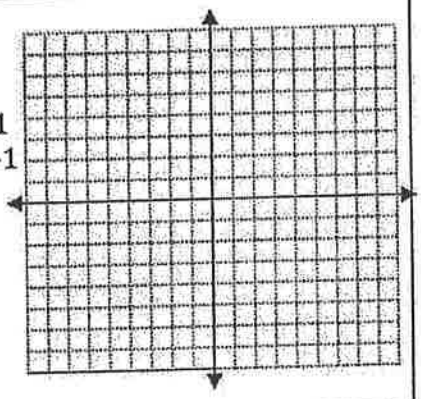
4.

$$f(x)=\begin{cases}-\frac{1}{3}x-1, & x\le 3\\ 2, & x>3\end{cases}$$



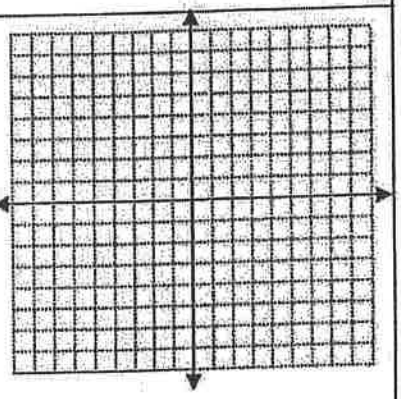
5.

$$f(x)=\begin{cases}6+x, & x<-1\\ -2x+6, & x\ge -1\end{cases}$$



6.

$$f(x)=\begin{cases}3, & x\le 0\\ 1, & 0<x\le 2\\ -1, & 2<x\le 4\\ -3, & x>4\end{cases}$$



7.

$$f(x)=\begin{cases}4x^2-x^4, & x\le -3\\ x^2+x, & -3<x<3\\ 13, & x\ge 3\end{cases}$$

a. $f(-3)=$

b. $f(3)=$

c. $f(0)=$

d. $f(-2)=$