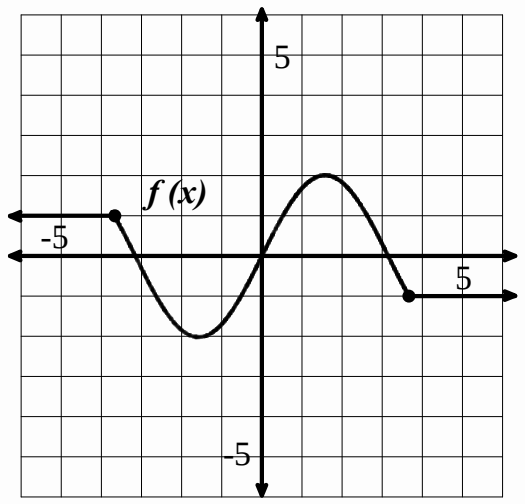
Name: _____ Period: _____ Date: _____ Score: _____

Unit 5 Review - FUNCTIONS

Use the graph at the right to answer questions 1-12. Estimate where needed.



1. List any minimum(s) of the graph: _____.

2. List any maximum(s) of the graph: _____.

3. When is the graph increasing?

_____.

4. When is the graph decreasing?

_____.

5. What is the range of the graph? _____.

6. What is the domain? _____.

Give two end behavior statements:

7. _____.

8. _____.

9. List any x-intercepts: _____.

10. $f(5)$ = _____.

11. $f(-.5)$ = _____.

12. $f(x) = 2$, x = _____.

13. $f(x) = 0$, x = _____.

14. If $h(x) = 2x - 4$, and $f(x) = -2x + 5$ and $g(x) = -10$, *find the following:*

a. $f(-4)$ =

b. $h(x) = 0$

c. $f(x) = -4$

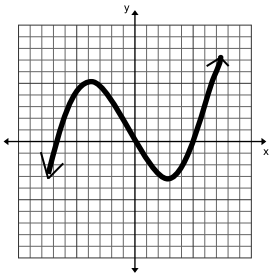
d. $f(x) + h(x)$

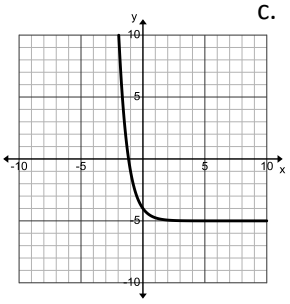
e. $h(x) - g(x)$

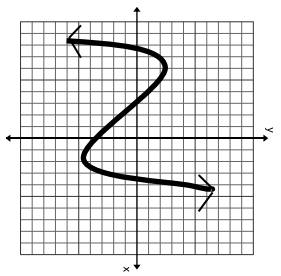
f. $f(w)$=

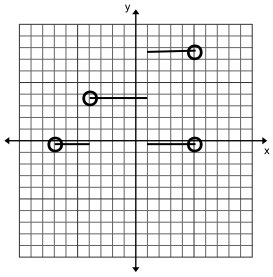
g. $h(3m)$=

15. State if the relationship represents a Function (F) or Not a Function (NF)

a. 

b. 

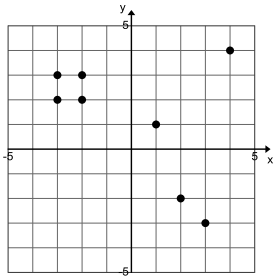
c. 

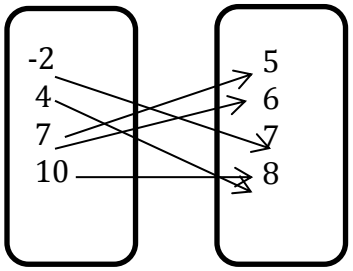
d. 

e. {(2, -1), (3, -1), (4, -1), (-2, 1), (-3, 1), (-4, 1)}

f.

x	-2	-1	0	-1
y	4	1	1	1

g. 

h. 

16. Give the domain and range of each relation.

a. {(2, -1), (3, -1), (4, -1), (-2, 1), (-3, 1), (-4, 1)}

b.

x	-2	0	2	3	4	5
y	-2	7	4	-2	4	7

17. Match a story with a graphic representation.

I. The amount of water in the washing machine when washing a load of laundry. _____

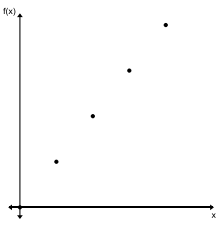
II. The money earned if each correct answer earns 10 more dollars. _____

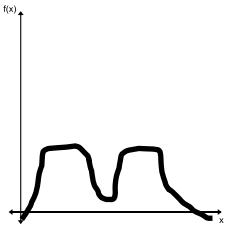
III. The amount of time left in a person's life. _____

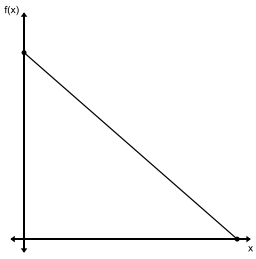
IV. The value of a car over a 15 year period of time. _____

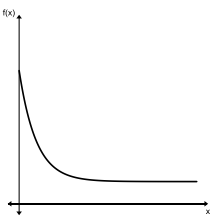
V. The money earned for each correct answer doubles the previous earnings. _____

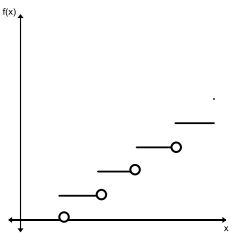
VI. The amount of money a babysitter earns, if her pay increase only when she completes a full hour. _____

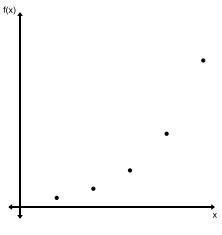
A. 

B. 

C. 

D. 

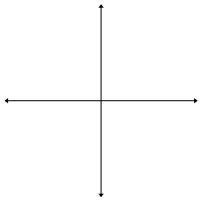
E. 

F. 

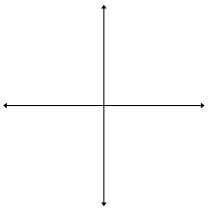
18. From problem #17, which graphs are continuous, and which are discrete?

CONTINUOUS: DISCRETE:

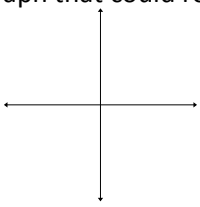
19. Draw a continuous graph that could represent a function.



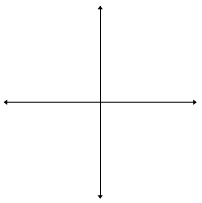
20. Draw a continuous graph that is NOT a function.

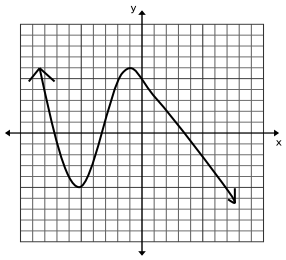


21. Draw a discrete graph that could represent a function.

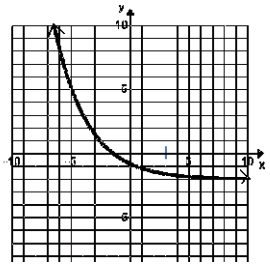


22. Draw a discrete graph that is NOT a function.

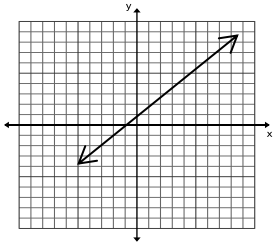




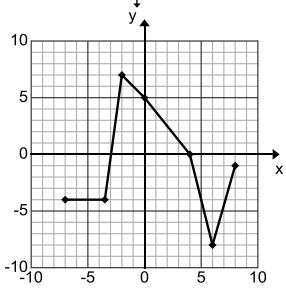
23.
a) What are the end behaviors?
b) When is the graph increasing?
c) When is the graph decreasing?
d) List all x-and y-intercepts.



24.
a) What are the end behaviors?
b) When is the graph increasing?
c) When is the graph decreasing?
d) List all x-and y-intercepts.



25.
a) What are the end behaviors?
b) When is the graph increasing?
c) When is the graph decreasing?
d) List all x-and y-intercepts.



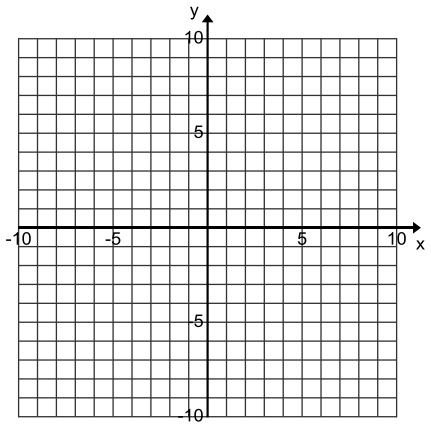
26.
a) What are the end behaviors?
b) When is the graph increasing?
c) When is the graph decreasing?
d) List all x-and y-intercepts.

27. Draw a graph that meets all the following criteria:
Nonlinear;

Intercepts: (-8,0), (-4,0), (0,0), (4,0), (8,0);

Maximums:(-6,3), (2,3); Minimums:(-2,-3), (6,-3);

End behavior: $x \to -\infty$, $y \to -\infty$ and $x \to \infty$, $y = 2$.



28. Fill out the table below.

x	$a(x)$	$b(x)$	$a(x) + b(x)$	$a(x) - b(x)$
-2	-7	-11		
-1	-2	-2		
0	0	1		
1	2	4		
2	4	7		
3	10	10		
4	15	12		

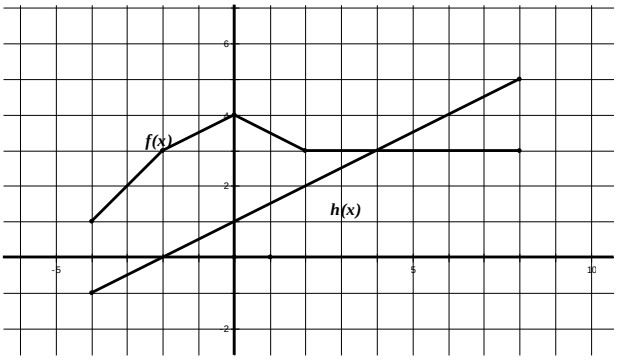
29. When is b(x) increasing?

30. When is b(x) > a(x)?

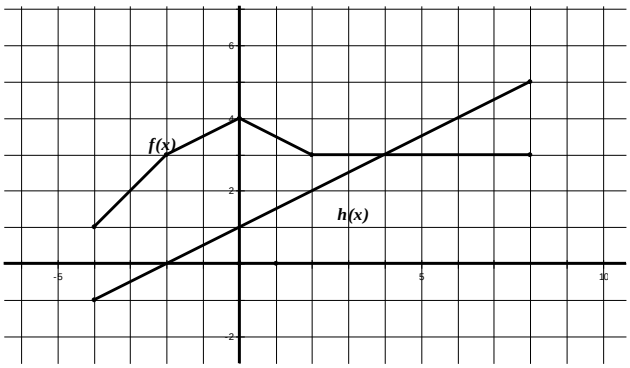
31. What is the y-intercept of b(x)?

32. What is the minimum of a(x)?

33. Find $f(x) + h(x)$ and plot it on the graph below.



34. Find $f(x) - h(x)$ and plot it on the graph below.



35. Write how you would say "23 < x < 28" out loud.