Name:_____ Period:_____

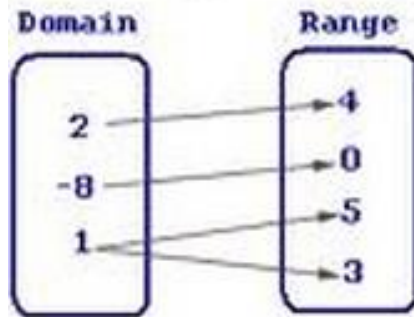## Unit 2 Review – Secondary 1 Honors

Determine whether the following is a function. Explain why or why not?

1.

Domain   Range

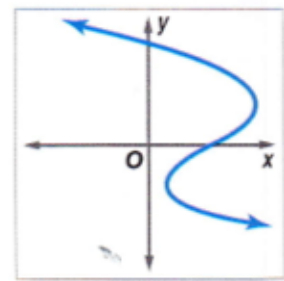| Domain	Range
-1	3
0	5
1	11
2	21
3	

2.

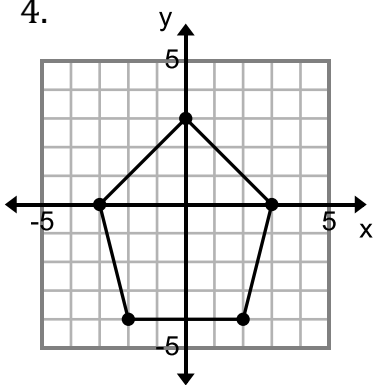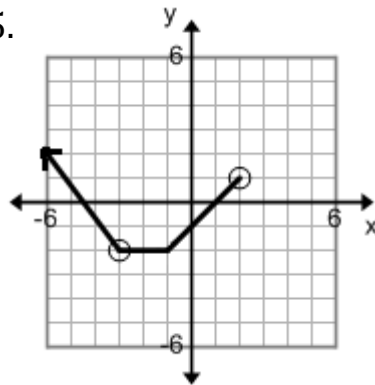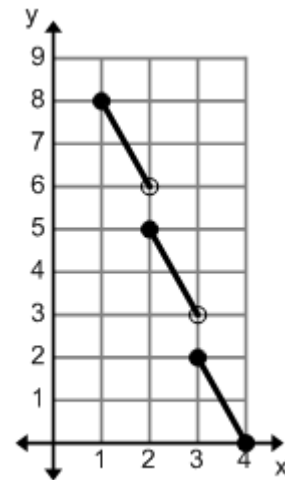| Domain	Range
2	4
-8	0
1	5
	3
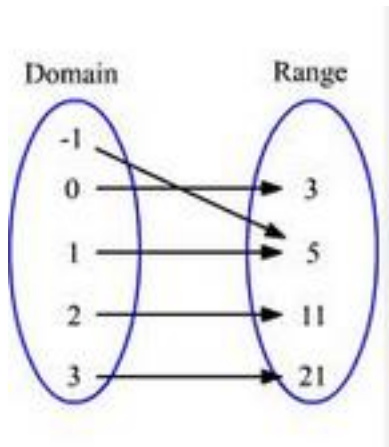
3.

4.

5.

6.

Determine if each set of ordered pairs is a function or not, then state the domain and range.

7. $\{(-4,3),(5,3),(-2,1),(-7,1)\}$

8. $\{(-3,2),(4,5),(-3,7),(4,-9),(5,-3)\}$

Find the average rate of change for the given interval.

9. on the interval $[3,6]$

x	f(x)
0	2
1	– 3
2	0
3	2
4	6
5	12
6	20

10. on the interval $[6,8]$

n	f(n)
6	23
7	19
8	15
9	11

Determine whether the following is a function. Explain why or why not?

11.   12.   13. $f(x) = 2x - 9$

x	$f(x)$
-3	6
2	9
-4	3
2	9

x	$f(x)$
-5	9
-2	1
4	3
1	1

Use $f(x) = 3x - 4$, $g(x) = x^2 + 5$, & $h(x) = -5x + 3$ to answer questions 14-23.

14. $f(x) + g(x)$ 15. $f(x - 5)$ 16. $g(-5x)$ 17. $f(x) \cdot g(x)$ 18. $f(2) - h(-3)$

19. $f(7) - 3$ 20. $g(4) + 7$ 21. $f(2x + 3)$ 22. $g(-5) - 3$ 23. $f(x + 9) + 4$

Use $f(x) = -7x + 6$ & $g(x) = 2x + 4$ to answer questions 24-28.

24. $f(x) = -36$ 25. $g(7)$ 26. $f(5)$ 27. $g(0)$ 28. $g(x) = 28$

Use the table to answer questions 29-32.

x	f(x)
-1	8
2	0
3	8
-2	-1
0	-2
4	2

29. $f(-2)$

30. $f(x) = -2$

31. $f(x) = 8$

32. $f(2)$

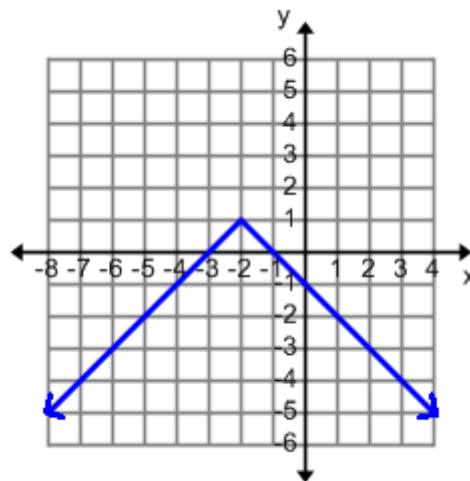Use the graph to the right to answer questions 33-37.

33. $f(2)$

34. $f(x) = 0$

35. $f(-4)$

36. $f(x) = 1$

37. $f(x) = -3$

38. Describe the features of the graph below using **SET BUILDER** notation

Is this a function?_____ Why?

Domain:_____ Range:_____

Continuity: (Circle one)   Continuous   Non-Continuous   Discrete

Increasing:_____ Decreasing:_____

Minimum:_____ Maximum: _____
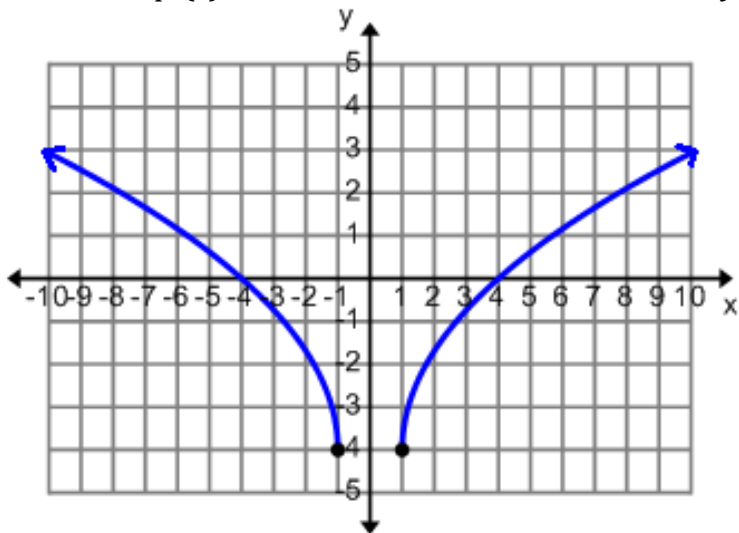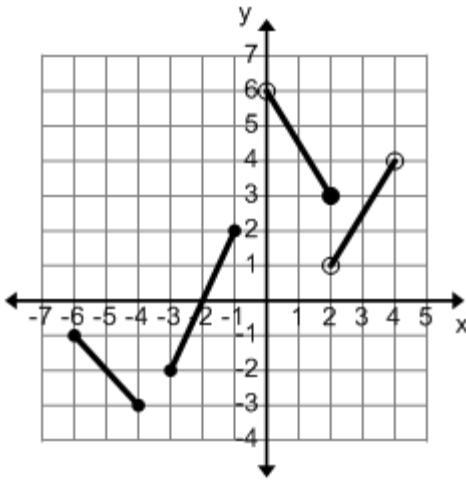
Positive:_____ Negative:_____

x-intercept(s): _____ y-intercept(s): _____

39. Find the average rate of change for the graph on the left on the interval $[1,4]$.

40. Describe the features of the graph below using **SET BUILDER** notation

Is this a function?_____ Why?

Domain:_____

Range:_____

Continuity: Continuous   Non-Continuous   Discrete

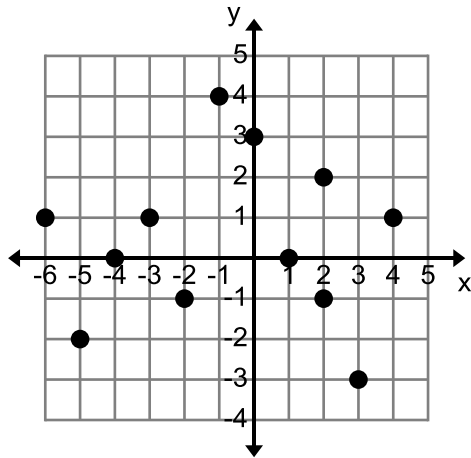Increasing:_____

Decreasing:_____

Minimum:_____   Maximum: _____

Positive:_____   Negative:_____

x-intercept(s): _____   *y*-intercept(s): _____

41. Describe the features of the graph below using **SET BUILDER** notation

Is this a function?_____ Why?

Domain:_____

Range:_____

Continuity: Continuous   Non-Continuous   Discrete

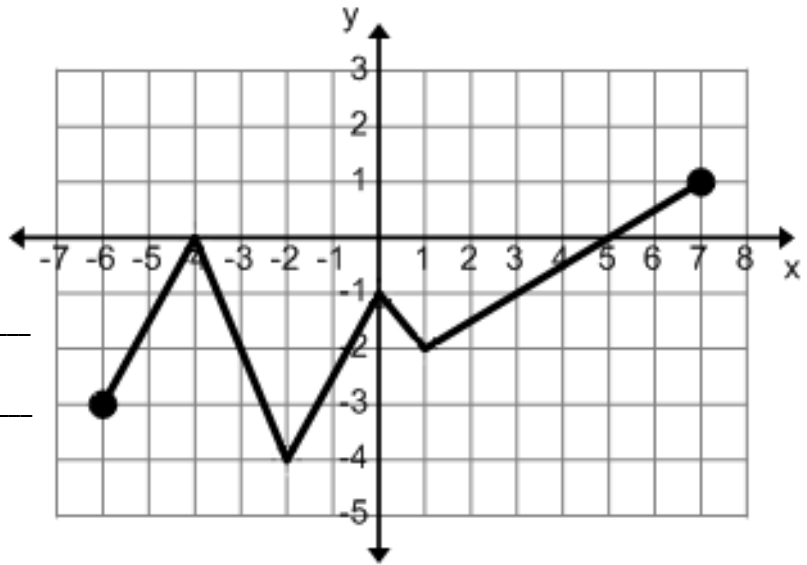Increasing:_____

Decreasing:_____

Minimum:_____   Maximum: _____

Positive:_____   Negative:_____

x-intercept(s): _____   *y*-intercept(s): _____

42. Describe the features of the function using **INTERVAL NOTATION.**

Is this a function?_____

Domain:_____

Range:_____

Continuity: Continuous   Non-Continuous   Discrete

Increasing:_____   Decreasing:_____

Minimum:_____   Maximum: _____

Positive:_____   Negative:_____

x-intercept(s): _____   y-intercept(s): _____

43.
Describe the features
 of the function using
INTERVAL NOTATION.

Is this a function?_____   Why?

Domain:_____

Range:_____

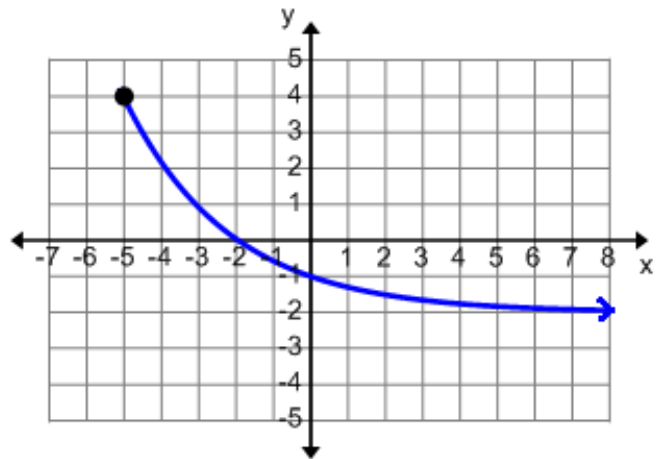Continuity: Continuous   Non-Continuous   Discrete

Increasing:_____   Decreasing:_____

Minimum:_____   Maximum: _____

Positive:_____   Negative:_____

x-intercept(s): _____   y-intercept(s): _____

44. Find the average rate of change for the graph above on the interval $[-5,-2]$.

45. Describe the features of the function using **INTERVAL NOTATION**

Is this a function?_____ Why?

Domain:_____

Range:_____

Continuity: Continuous
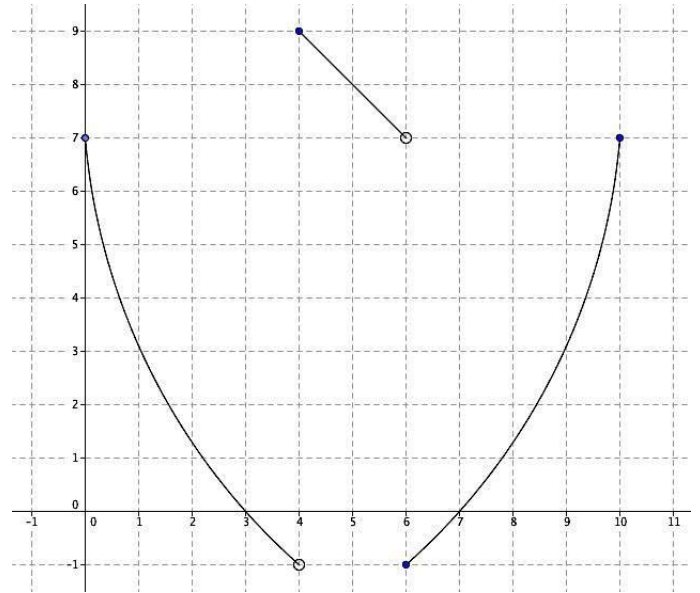   Non-Continuous
                 Discrete

Increasing:_____

Decreasing:_____

Minimum:_____   Maximum: _____

Positive:_____   Negative:_____

x-intercept(s): _____   y-intercept(s): _____

46. Describe the features of the function using **INTERVAL NOTATION**

Is this a function?_____ Why?

Domain:_____

Range:_____

Continuity: Continuous
                 Non-Continuous
                 Discrete

Increasing:_____

Decreasing:_____

Minimum:_____   Maximum: _____

Positive:_____   Negative:_____

x-intercept(s): _____   y-intercept(s): _____

47. Describe the features of the function using **INTERVAL NOTATION**

Is this a function?_____ Why?

Domain:_____

Range:_____

Continuity: Continuous
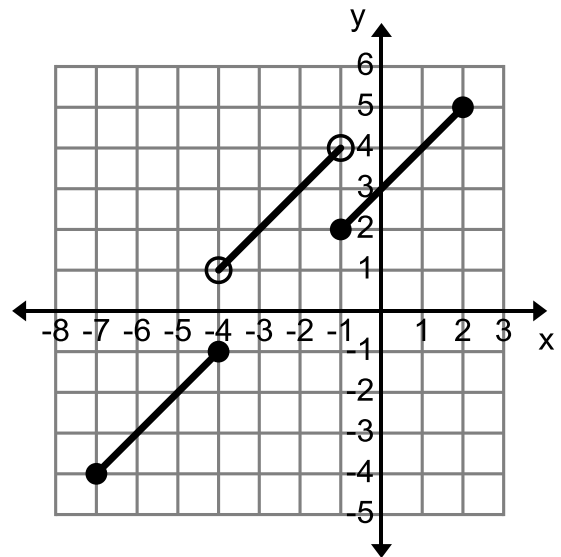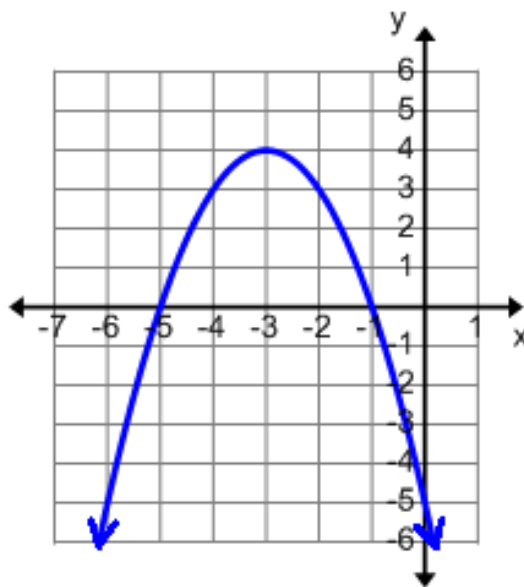   Non-Continuous
                Discrete

Increasing:_____

Decreasing:_____

Minimum:_____   Maximum: _____

Positive:_____   Negative:_____
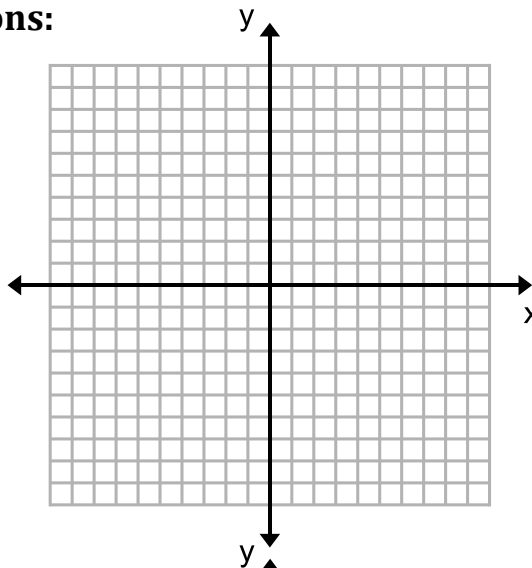
x-intercept(s): _____   y-intercept(s): _____

Create a graph that matches the given descriptions:

48. The function has an intercept at $f(-5) = 0$.
The function has no minimum.
The function increases from -5 to 2 and
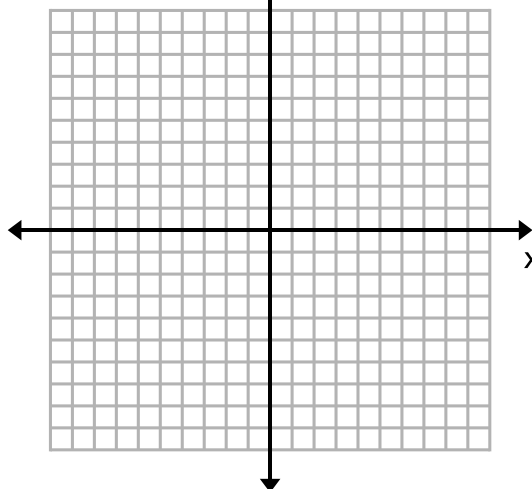   decreases from 2 to infinity.

49. The function has a domain from -9 to 9.
The function has a range from -2 to 7
The function is non-continuous.
The function is positive between -9 to 3.
The function is negative from right after 3 to 9.

MATCHING
Match the following descriptions to the graph they BEST represent.

_____50. The domain is 0 to infinity
     The range is negative infinity to infinity.
     The graph is continuous.

A.

_____51. The domain is from negative infinity to infinity.
     The function has a y intercept at f(0)=3
     The function never increases and never decreases.
     The function is non-continuous.

B.

_____52. The domain is negative infinity to infinity.
     The graph is negative from negative infinity to 2.
     The graph is always increasing.

C.

_____53. The domain is -3 and 2.
     The range is negative infinity to infinity.
     The function has no min and no max
     The function is non-continuous.

D.

_____54. The domain is negative infinity to infinity.
     The range is 0 to infinity.
     The function has two increasing intervals.
     The function has minimums at f(-3)=0 and f(1)=0.

E.