

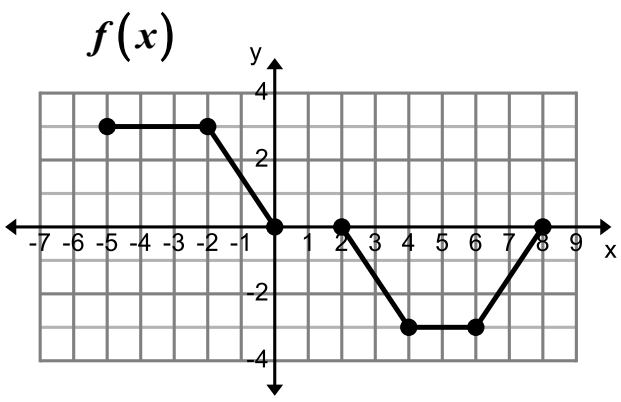
Name: \_\_\_\_\_ Period: \_\_\_\_\_

Score: _____ / _____ %
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**HW 2-6 HONORS: All Characteristics of Functions**

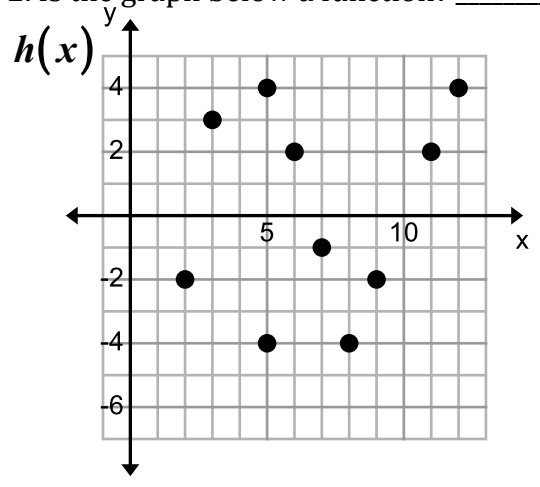
Answer problems #1-2 using SET BUILDER NOTATION.

1. Is the graph below a function? \_\_\_\_\_ Why? \_\_\_\_\_



Domain: \_\_\_\_\_ Range: \_\_\_\_\_  
 Continuity: (circle your answer) Continuous, Non-Continuous, or Discrete?  
 Increasing: \_\_\_\_\_ Decreasing: \_\_\_\_\_  
 minimum: \_\_\_\_\_ maximum: \_\_\_\_\_  
 Positive: \_\_\_\_\_ Negative: \_\_\_\_\_  
 x-intercept: \_\_\_\_\_ y-intercept: \_\_\_\_\_

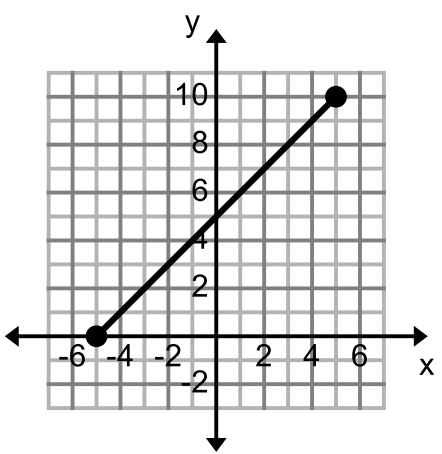
2. Is the graph below a function? \_\_\_\_\_ Why? \_\_\_\_\_



Domain: \_\_\_\_\_ Range: \_\_\_\_\_  
 Continuity: (circle your answer) Continuous, Non-Continuous, or Discrete?  
 Increasing: \_\_\_\_\_ Decreasing: \_\_\_\_\_  
 minimum: \_\_\_\_\_ maximum: \_\_\_\_\_  
 Positive: \_\_\_\_\_ Negative: \_\_\_\_\_  
 x-intercept: \_\_\_\_\_ y-intercept: \_\_\_\_\_

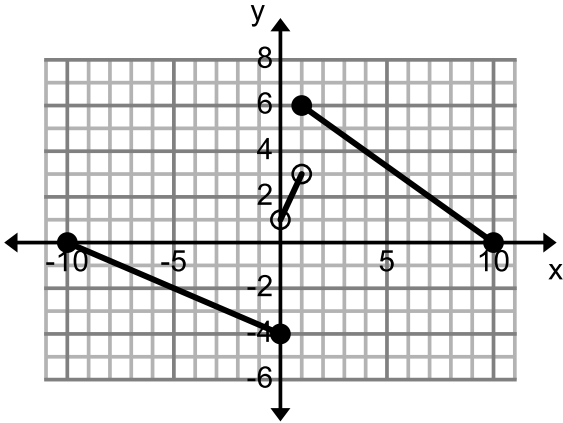
Answer problems #3-8 using INTERVAL NOTATION.

3. Is the graph below a function? \_\_\_\_\_ Why? \_\_\_\_\_



Domain: \_\_\_\_\_ Range: \_\_\_\_\_  
 Continuity: (circle your answer) Continuous, Non-Continuous, or Discrete?  
 Increasing: \_\_\_\_\_ Decreasing: \_\_\_\_\_  
 minimum: \_\_\_\_\_ maximum: \_\_\_\_\_  
 Positive: \_\_\_\_\_ Negative: \_\_\_\_\_  
 x-intercept: \_\_\_\_\_ y-intercept: \_\_\_\_\_

4. Is the graph below a function? \_\_\_\_\_ Why? \_\_\_\_\_



Domain: \_\_\_\_\_ Range: \_\_\_\_\_

Continuity: (circle your answer) Continuous, Non-Continuous, or Discrete?

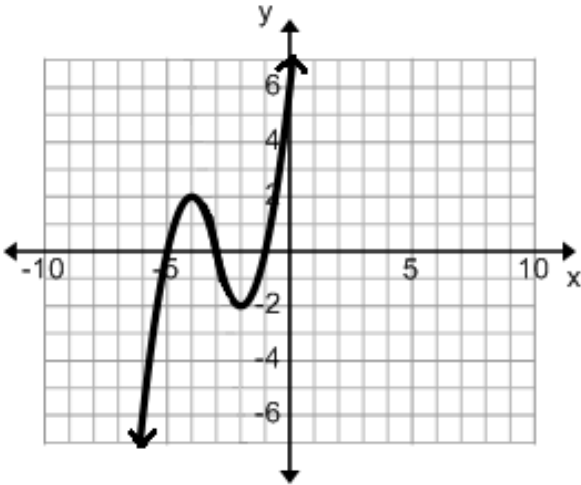
Increasing: \_\_\_\_\_ Decreasing: \_\_\_\_\_

minimum: \_\_\_\_\_ maximum: \_\_\_\_\_

Positive: \_\_\_\_\_ Negative: \_\_\_\_\_

x-intercept: \_\_\_\_\_ y-intercept: \_\_\_\_\_

5. Is the graph below a function? \_\_\_\_\_ Why? \_\_\_\_\_



Domain: \_\_\_\_\_ Range: \_\_\_\_\_

Continuity: (circle your answer) Continuous, Non-Continuous, or Discrete?

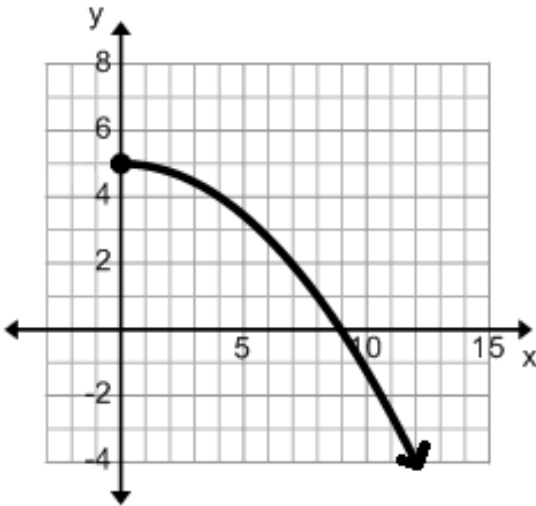
Increasing: \_\_\_\_\_ Decreasing: \_\_\_\_\_

minimum: \_\_\_\_\_ maximum: \_\_\_\_\_

Positive: \_\_\_\_\_ Negative: \_\_\_\_\_

x-intercept: \_\_\_\_\_ y-intercept: \_\_\_\_\_

6. Is the graph below a function? \_\_\_\_\_ Why? \_\_\_\_\_



Domain: \_\_\_\_\_ Range: \_\_\_\_\_

Continuity: (circle your answer) Continuous, Non-Continuous, or Discrete?

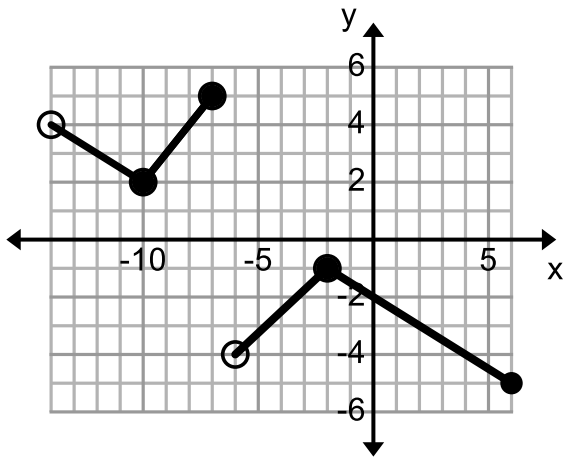
Increasing: \_\_\_\_\_ Decreasing: \_\_\_\_\_

minimum: \_\_\_\_\_ maximum: \_\_\_\_\_

Positive: \_\_\_\_\_ Negative: \_\_\_\_\_

x-intercept: \_\_\_\_\_ y-intercept: \_\_\_\_\_

7. Is the graph below a function? \_\_\_\_\_ Why? \_\_\_\_\_



Domain: \_\_\_\_\_ Range: \_\_\_\_\_

Continuity: (circle your answer) Continuous, Non-Continuous, or Discrete?

Increasing: \_\_\_\_\_ Decreasing: \_\_\_\_\_

minimum: \_\_\_\_\_ maximum: \_\_\_\_\_

Positive: \_\_\_\_\_ Negative: \_\_\_\_\_

x-intercept: \_\_\_\_\_ y-intercept: \_\_\_\_\_

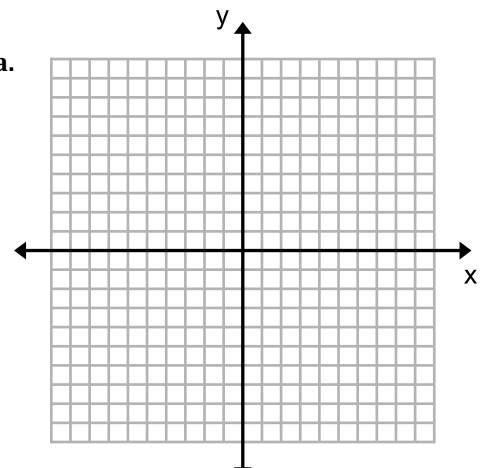
For #8-10, draw a possible graphed function that fits all of the given criteria.

8. Domain contains all Real numbers between  $-2$  and  $3$ .

Range contains all Real numbers between  $3$  and  $7$ .

The function is increasing from  $-2$  to  $0$  and decreasing after  $0$ .

The function is not continuous at every point.

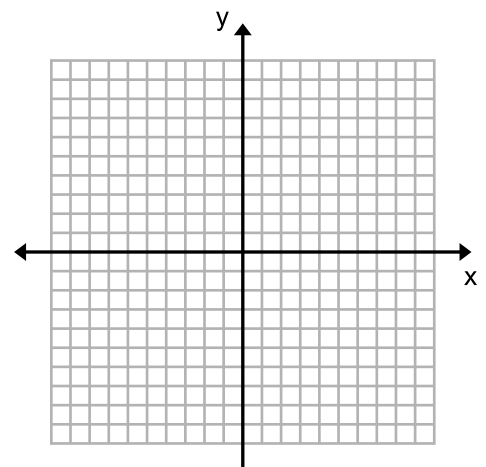


9. The function has a minimum at  $-5$ .

The function has a maximum at  $8$ .

The function has two intervals on which it is decreasing and one interval on which it is increasing.

The domain of the functions contains all Real numbers from  $1$  to  $9$ .



10. This function is not continuous anywhere.

The function contains only seven elements in its domain.

The values of the domain are between  $-10$  and  $2$ .

The values of the range are between  $-1$  and  $1$ .

