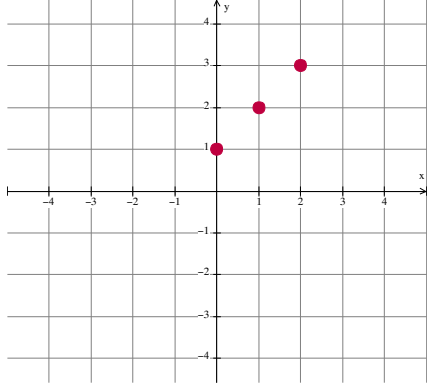
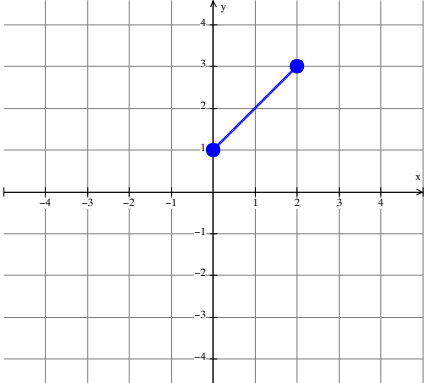


CH. 1, L6- DOMAIN AND RANGE

Objective: Given a graph, table or equation, I will state the domain and range with an inequality or interval notation.

Think About It: Examine the functions graphed below:

<p>1.</p> 	<p>a) Make a list of all input values for the points.</p> <hr/> <p>b) Make a list of all output values for the points.</p>
<p>2.</p> 	<p>a) Make a list of all possible x-values on the line.</p> <hr/> <p>b) Make a list of all possible y-values on the line.</p>

3. What is the difference between the graphs and the lists that you created for questions 1 & 2?

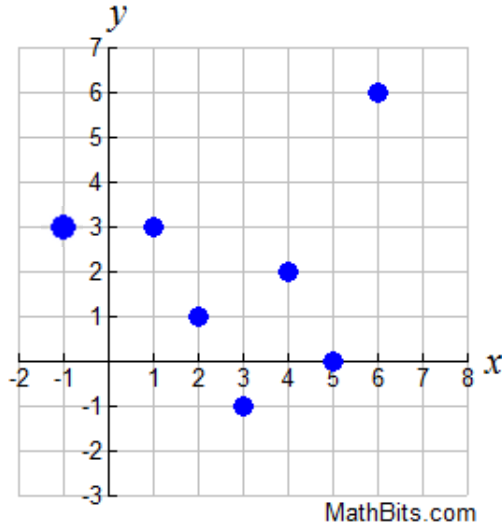
Big Idea:

CFS:

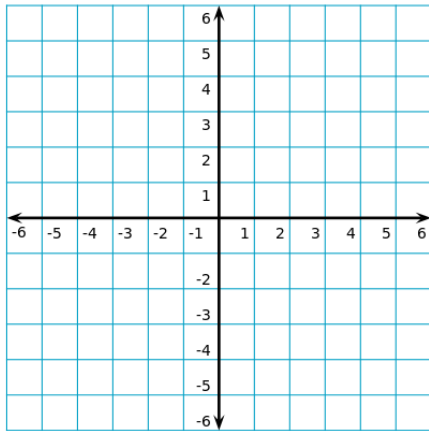
1. Highlight important information and circle the question/prompt.
2. Domain/Range annotated in prompt and (Domain = "all x-values" and Range = "all y-values")
3. Functions are identified as discrete or continuous
4. Domain and range is expressed in the correct form (set notation or inequality statements)

Interaction with New Material:

Ex. 1) Determine the domain and range of the function graphed below:



Ex. 2) If the domain of $g(x) = 2x + 3$ is $\{-3 < x \leq 0\}$, state the range of the function.



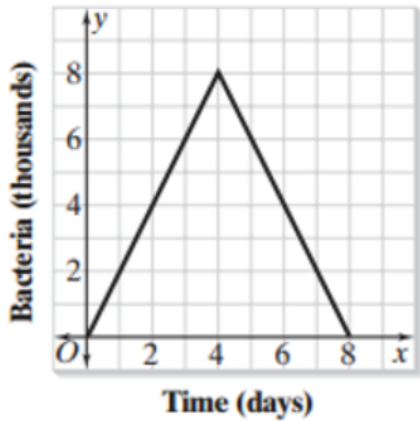
Partner Practice: (Low Difficulty)

1. The function $h(x)$ is defined by the coordinate pairs $(-3, 1)$, $(4, -2)$, $(-5, 0)$ and $(2, 0)$. Determine the domain and range of the function. Explain how you know it is a function.

2. Find the domain and range of the function graphed below. Circle the correct answer.

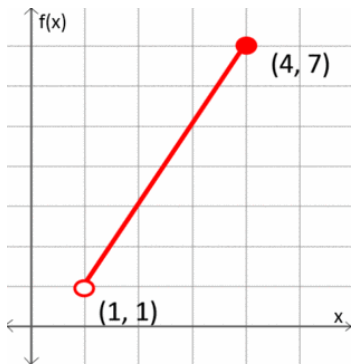
CFS:

1. Highlight important information and circle the question/prompt.
2. Domain/Range annotated in prompt and (Domain = "all x-values" and Range = "all y-values")
3. Functions are identified as discrete or continuous
4. Domain and range is expressed in the correct form (set notation or inequality statements)



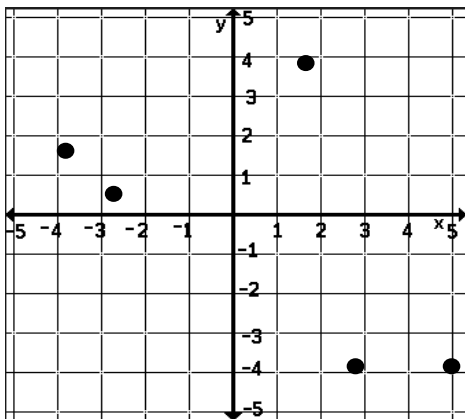
- A Domain: $0 \leq x \leq 4$; Range: $0 \leq y \leq 4$
- B Domain: $0 \leq x \leq 8$; Range: $0 \leq y \leq 4$
- C Domain: $0 \leq x \leq 4$; Range: $0 \leq y \leq 8$
- D Domain: $0 \leq x \leq 8$; Range: $0 \leq y \leq 8$

3. Determine the domain and range of the function below. Explain why you used the inequality symbols that you did.



Partner Practice: (Medium Difficulty)

4. Complete the function table below and use it to determine the domain and range of the function.

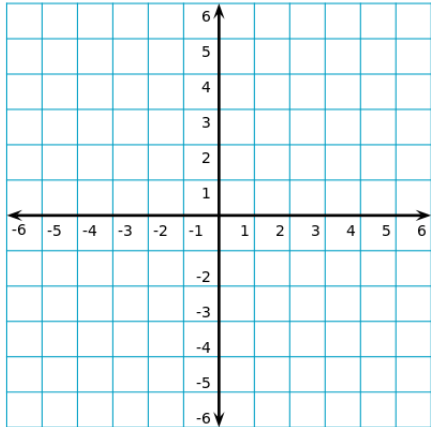


Domain	Range

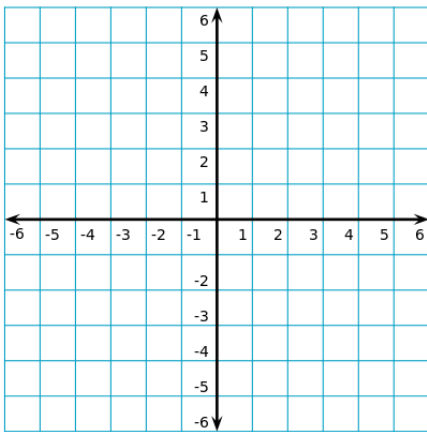
CFS:

1. Highlight important information and circle the question/prompt.
2. Domain/Range annotated in prompt and (Domain = "all x-values" and Range = "all y-values")
3. Functions are identified as discrete or continuous
4. Domain and range is expressed in the correct form (set notation or inequality statements)

5. The function $h(x) = x + 5$ has a domain of $\{-3 < x < 3\}$. Determine the range.



6. The same function $h(x) = x + 5$ has a range of $\{-3 \leq y < 3\}$. Determine the domain.

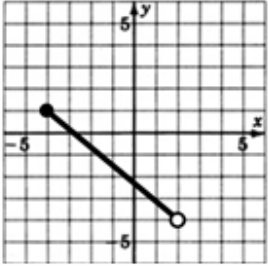
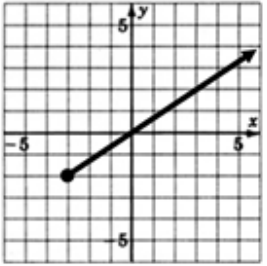
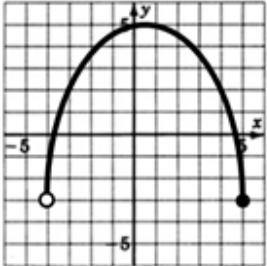
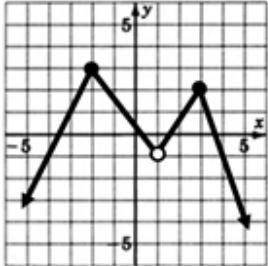


7. Explain how your strategy changed in solving questions 5 and 6.

CFS:

1. Highlight important information and circle the question/prompt.
2. Domain/Range annotated in prompt and (Domain = "all x-values" and Range = "all y-values")
3. Functions are identified as discrete or continuous
4. Domain and range is expressed in the correct form (set notation or inequality statements)

8. Determine the domain and range of the following functions.

Interval Notation and GRAPHS (write the DOMAIN and RANGE for each Graph in Interval Notation)			
			
D:	D:	D:	D:
R:	R:	R:	R:

Partner Practice: (Hard Difficulty)

9. Mary and Tim are trying to determine the range of the function $f(x) = x^2$ where the domain is defined as $\{-4 \leq x \leq 4\}$. Tim says that when you evaluate the function for the inputs -4 and 4, you get the same output, $f(x)=16$. Because of this, Tim says that the range of the function is $\{16\}$. Mary disagrees and says that if you substitute different inputs within the domain that you get outputs other than 16.

Use Mary’s strategy of substituting other inputs in the domain to find all the values of the range. Explain the error in Tim’s thinking and the implications for determining the domain and range of functions that are not linear.

Domain	Range
-4	
-3	
-2	
-1	
0	
1	
2	
3	
4	

CFS:

1. Highlight important information and circle the question/prompt.
2. Domain/Range annotated in prompt and (Domain = “all x-values” and Range = “all y-values”)
3. Functions are identified as discrete or continuous
4. Domain and range is expressed in the correct form (set notation or inequality statements)