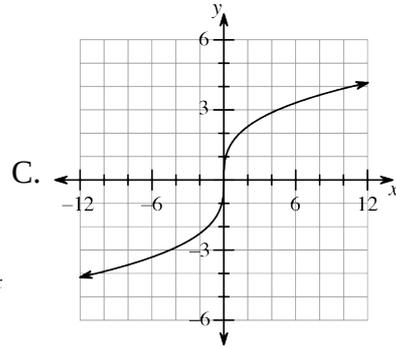
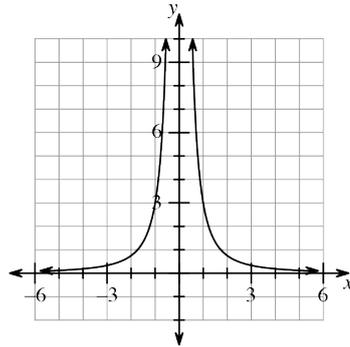
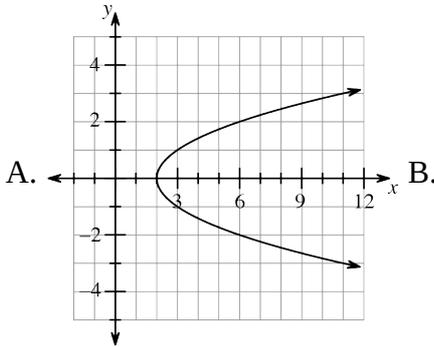


# Core Connections Algebra - Chapter 2 - Individual Version 1

Name: \_\_\_\_\_ Date: \_\_\_\_\_

1. Below are the graphs of three relationships, A, B, and C.



a. Which relationship has a domain of all real numbers? \_\_\_\_\_

b. Which relationship has a range of only positive numbers? \_\_\_\_\_

Standards: *CCSS.Math.Content.HSF-IF.B*

2. Is the relationship shown in graph A a function? Why or why not? Explain completely.

Standards: *CCSS.Math.Content.HSF-IF.A*

3. Is  $x = -3$  in the domain of  $f(x) = \frac{x^2+1}{x+3}$ ? Why or why not? Explain completely.

Standards: *CCSS.Math.Content.HSF-IF.B*

4. Evaluate each expression for the given value.

a.  $|9 - m^2| + 3m$  for  $m = -2$

b.  $\frac{3g+5}{(g-1)(g+6)}$  for  $g = 2$

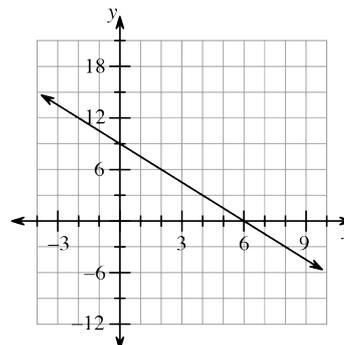
Standards:

5. Determine the slope of each situation.

a.

x	5	6	7	8	9
y	-2	1	4	7	10

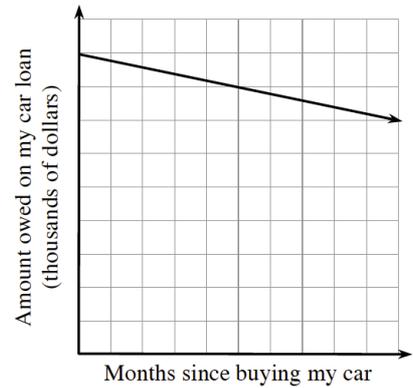
b.



Standards: *CCSS.Math.Content.HSF-LE.B*; *CCSS.Math.Content.HSF-LE.A*; *CCSS.Math.Content.HSF-IF.C*

6. Use the graph at right to answer the following questions.

a. What does the graph represent? Be clear and complete in your response



b. What is the real-world interpretation of the slope? (That is, what does the value of the slope tell you?)

c. What is the real-world interpretation of the y-intercept? (That is, what does the value of the y-intercept tell you?)

Standards: *CCSS.Math.Content.HSF-LE.B*; *CCSS.Math.Content.HSF-LE.A*; *CCSS.Math.Content.HSF-IF.C*

7. Below is a tile pattern.

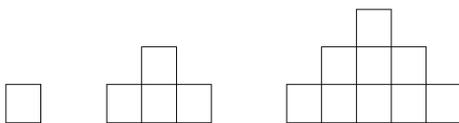


Figure 1

Figure 2

Figure 3

a. Draw Figure 0 and Figure 4.

b. Create and complete a table showing the figure numbers and the number of tiles in each figure. Extend your table out to Figure 5.

c. What is the growth rate for this tile pattern? Explain how you know.

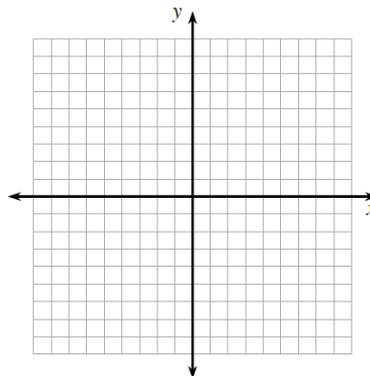
d. Write an equation that represents the number of tiles in each figure, given the figure number.

e. If you were to graph your equation from part (d), what would be the  $y$ -intercept? Do you need to graph the equation to find this out? Explain completely.

f. What does the growth rate tell you about the graph? Explain completely.

Standards: *CCSS.Math.Content.HSF-LE.A*

8. Without creating a table, graph the equation  $y = \frac{3}{5}x - 4$ .



a. How do you know your graph is correct? Be clear and complete.

Standards: *CCSS.Math.Content.HSA-REI.D*