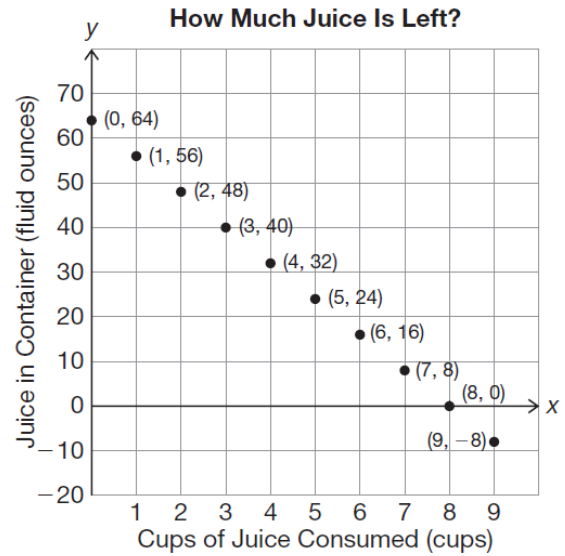


2.2.D1 - LINEAR FUNCTIONS

Name: _____

Past due on: _____ Period: _____

Use the graph to answer each question.



1. Identify the independent and dependent quantities and their unit of measure in this problem situation.

2. Is the relation a function? Explain your reasoning.

3. Is your graph continuous or discrete?

4. What function family is represented in this situation?

5. How does the amount of juice remaining in the container change as each cup of juice is removed?

6. Write a function $f(x)$ that represents the amount of juice remaining in the container and x represents the number of 8 ounce cups consumed.

7. Use your function to determine the amount of juice remaining in the container if 9 cups of juice are consumed. Does your answer make sense?

8. Use your equation to determine the number of cups of juice consumed if the remaining amount of juice is 40 fluid ounces.

Identify the expression representing the input value, the output value, the y -intercept, and the rate of change for each function. Refer to the 2.2 example "Identifying & Describing the Parts of a Linear Function" in the Chapter 2 Summary.

9. A backyard pool contains 500 gallons of water. It is filled with additional water at a rate of 6 gallons per minute. The function $f(t) = 6t + 500$ represents the volume of water in the pool as it is filled.

Input value: _____ Output value: _____ Rate of change: _____

10. A helicopter flying at 3505 feet begins its descent. It descends at a rate of 470 feet per minute. The function $f(t) = -470t + 3505$ represents the height of the helicopter as it descends.

Input value: _____ Output value: _____ Rate of change: _____

Complete the table to represent each problem situation. Identify the y -intercept and its contextual meaning. Refer to the 2.2 example "Comparing Tables, Equations, and Graphs to Model and Solve Linear Situations" in the Chapter 2 Summary.

11. A free-diver is diving from the surface of the water at a rate of 15 feet per minute.

Identify the y -intercept. What is its contextual meaning?

	INDEPENDENT QUANTITY	DEPENDENT QUANTITY
QUANTITY		
UNITS		
	0	
	1	
	2	
		-45
		-60
EXPRESSION		

12. A submarine is traveling at a depth of -300 feet. It begins ascending at a rate of 28 feet per minute.

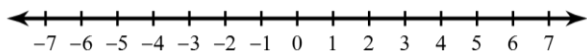
Identify the y -intercept. What is its contextual meaning?

	INDEPENDENT QUANTITY	DEPENDENT QUANTITY
QUANTITY		
UNITS		
	0	
	2	
	4	
		-132
		-76
EXPRESSION		

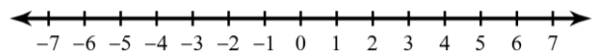
APK: GRAPHING INEQUALITIES

Refer to the 2.3 example "Representing Inequalities on a Number Line" in the Chapter 2 Summary.

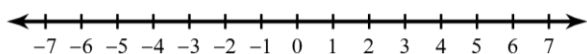
13. $m > 6$



14. $n \geq 5$



15. $a \leq -4$



16. $x < -1$

