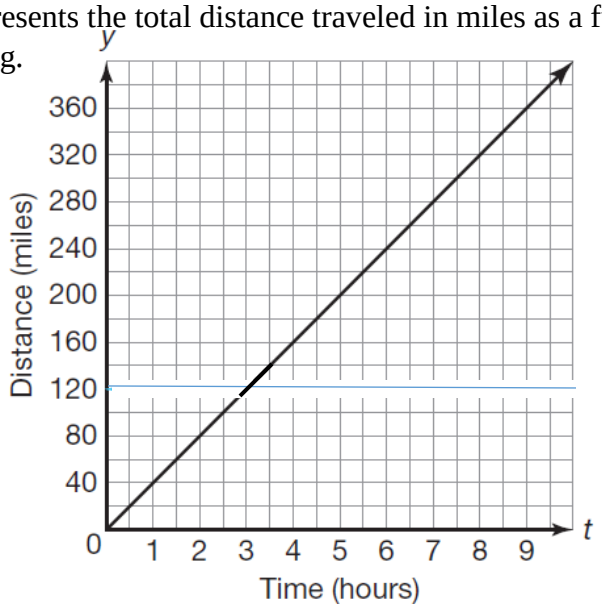
Algebra 1R Name _____
Unit 2 ~ Day 2 Homework

The function $A(t) = 7t$ represents the total amount of money in dollars Carmen earns babysitting as a function of time in hours. Evaluate each of the following.

1. A(2) = _____
2. A(4.5) = _____

3. A(t) = 42, so t = _____
4. A(t) = 22.4, so t = _____

The function $D(t) = 40t$ represents the total distance traveled in miles as a function of time in hours. Use the graph to evaluate the following.



5. D(3) = _____
6. D(4.5) = _____

7. D(t) = 320, so t = _____
8. D(t) = 400, so t = _____

Identify the input value, the output value, the y-intercept, and the rate of change for each function.

Example: A hot air balloon at 130 feet begins to ascend. It ascends at a rate of 160.5 feet per minute. The function $f(t) = 160.5t + 130$ represents the height of the balloon as it ascends.

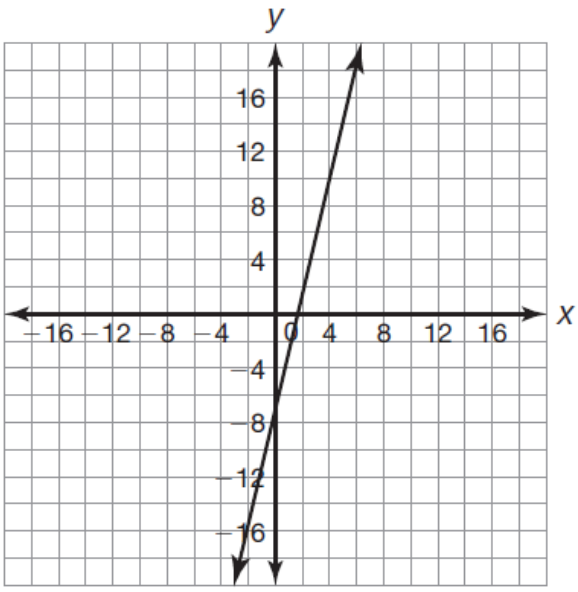
The input value is t, time in minutes. The output value is $f(t)$, height in feet.

The y-intercept is 130. The rate of change is 160.5.

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.

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.

11. Given the function, $f(x) = 4x - 7$, use the graph to evaluate:



a) f(0) = _____

*What does this point represent?

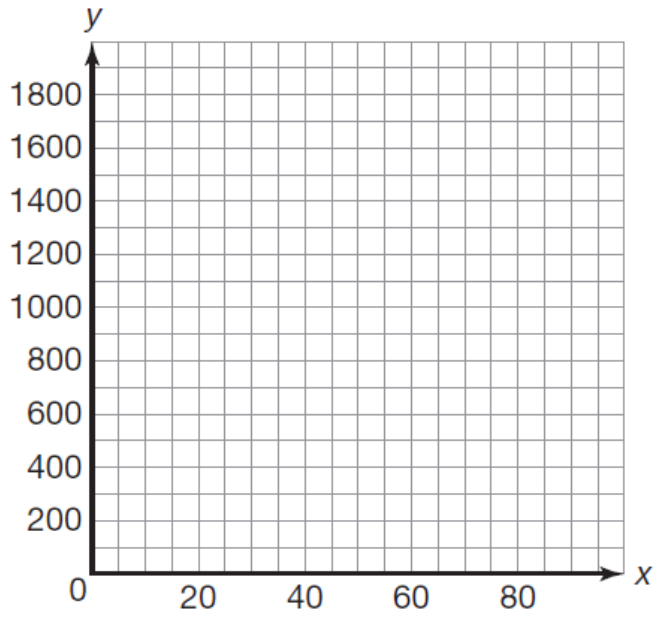
b) f(x) = 8, so x = _____

12. Algebraically evaluate $f(5)$, when $f(x) = -3x + 4$.

13. Lin and her friend Thomas are collecting food for the local food bank. Their goal is to collect a total of 1785 pounds of food. They start with 225 pounds donated by a local grocery store. Their goal is to collect 20 pounds of food per day.

a) Complete the table, then graph the function.

	Independent Quantity	Dependent Quantity
Quantity		
Units		
	0	
	10	
	15	
	25	
	48	1185
		1225
		1505
	t	



b) Write a function f(t) to represent this problem situation.

c) Use the graph to estimate the number of days it will take to collect 600 pounds of food.

d) Algebraically determine the number of days it will take to collect 600 pounds of food.

e) Compare and contrast your solutions using the graph and the function. What do you notice? Explain your reasoning.