

1. Elena works a part-time job after school to earn money for a summer vacation. She is paid a constant rate for each hour she works. The table shows the amounts of money that Elena earned for various amounts of time that she worked.

	Time Worked	Amount Earned
<b>Units</b>	Hours	Dollars
	2.5	22.50
	3	27.00
	3.5	31.50
	4.5	
	5	
<b>Expression</b>	6	
	$t$	

- A. What are the dependent and independent quantities in this problem situation?

Independent: \_\_\_\_\_

Dependent: \_\_\_\_\_

- B. Determine the unit rate of change for the problem situation.

- C. Complete the table.

- D. Determine the amount of money that Elena earns for working 7.5 hours.

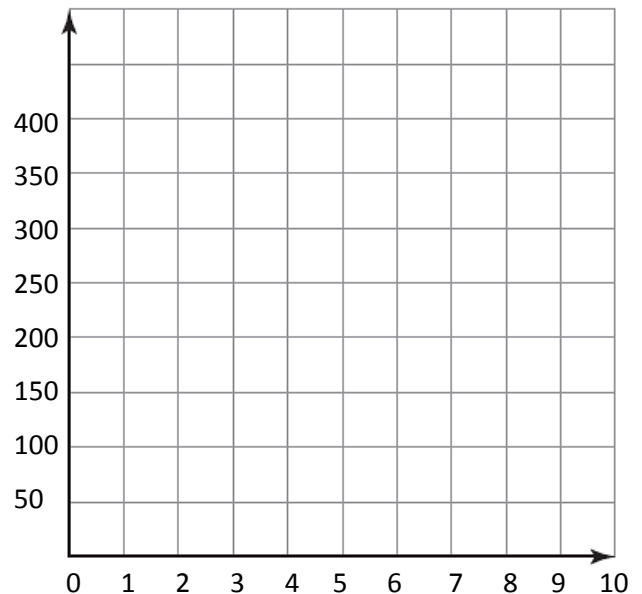
2. Malik received a \$300 gift card from his grandparents and is using it only to pay for his karate lessons, which cost \$30 per month.

- A. Write a function that describes the dollar amount of money  $d$ , on the card after  $t$  months.

- B. Graph the function that you wrote in part (a). Label your axes.

- C. Use the graph to estimate when there will be \$60 remaining on the card.

- D. Use your function to determine exactly when there will be \$60 remaining on the card.



Solve each equation.

3.  $4m + 2m = 3m - 9$

4.  $3(x - 4) = 2x + x - 9$

5.  $\frac{1}{2}(2x + 8) = 30$

Evaluate the function  $f(x) = -5.89x + 6.357$  for each value. Round to the 100ths place if necessary.

6.  $f(2.85)$

7.  $f(-4)$

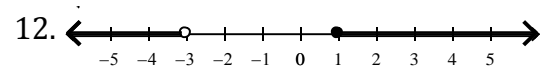
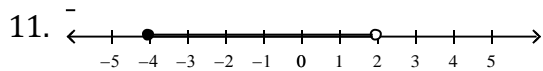
Solve each inequality and graph on a number line.

8.  $4k + 21 > -3$

9.  $a + 2(a - 12) \geq 0$

10.  $-5x - 7 < 28$

Write an inequality to represent each graph.



Solve each compound inequality. Graph your solution.

13.  $5 < w + 7 < 11$

14.  $x - 2 < -12$  or  $2x + 3 > 7$

15.  $7 \leq 3 - 2p < 11$

16.  $\frac{x}{4} - 2 < -1$  or  $-3x + 1 < 10$

Define a variable and write an inequality to model the situation.

17. The maximum occupancy of a theater is 300 people.

18. Today's temperature if the high is 74 and the low is 53.

Write an inequality and solve for each of the following.

19. An elevator can safely lift at most 4400 lbs. A concrete block has an average weight of 42 lbs.  
What is the maximum number of concrete blocks that the elevator can lift?

20. What is the greatest number of 34¢ stamps you can buy for \$5.00?

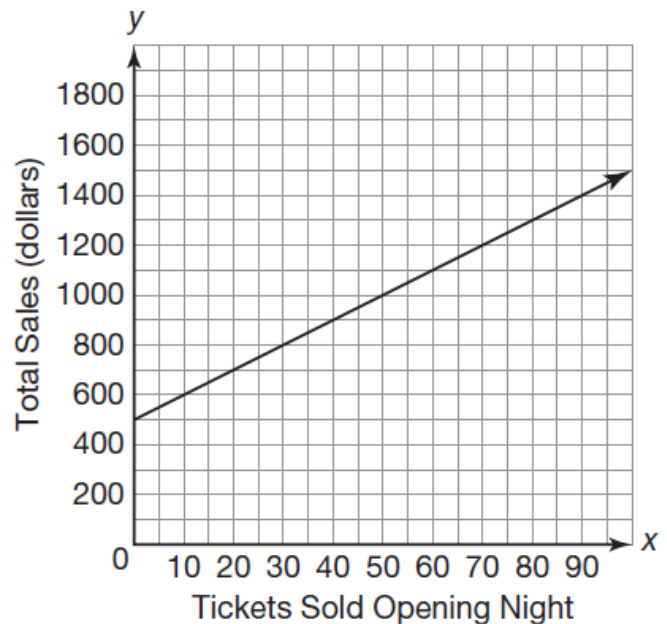
21. Elena works at the ticket booth of a local playhouse. On the opening night of the play, tickets are \$10 each. The playhouse has already sold \$500 worth of tickets during a presale. The function  $f(x) = 10x + 500$  represents the total sales as a function of tickets sold on opening night.

A. How many tickets can Elena sell and make no more than \$1000?

B. Draw a line at  $y = 1000$ .

C. Draw an oval on the graph to represent how many tickets can sell and make no more than \$1000.

D. How many tickets must Elena sell to make at least \$1400? Write an inequality to describe your answer.



E. How much money will Elena make if she sells exactly 70 tickets?