Name_____ Period_____

Review – Chapter 2

1.  Elena works a part-time job after school to earn money for a summer vacations.  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 |
|---|---|---|
| Units | Hours | Dollors |
| | 2.5 | 22.50 |
| | 3 | 27.00 |
| | 3.5 | 31.50 |
| | 4.5 | |
| | 5 | |
| | 6 | |
| Expression | t | |

a.  What are the dependent and independent quantities in this problem situation?  Explain your reasoning.

b.  Determine the unit rate of change for the problem situation.

c.  Complete the table.  Write an expression that represents the amount of money Elena earns for an arbitrary time worked of t hours.

d.  Use function notation to determine the amount of money that Elena earns for working 7.5 hours.
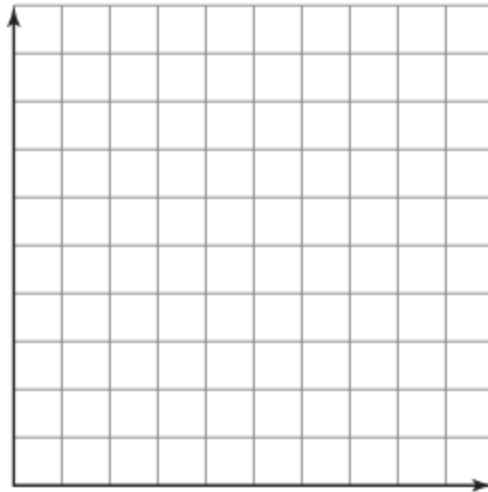
2. Solve the equation and justify your reasoning.

$$-4(x + 1) - 9 = -12x + 11$$

3. Malik received a $300 gift card from his grandparents and is using it only to pay for his karate lessons, which cost $28 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).



   c. Malik decides he wants to use the last of the gift card to buy some karate equipment that will cost $75. Estimate when there will be $75 remaining on the card.

   d. Determine exactly when there will be $75 remaining on the card.

4. Evaluate the function $f(x) = -0.0781x + 4.0253$ at each of these values.

   a. $f(12.605)$

   b. $f(-1.0092)$

5. Solve the inequality and graph the solution on the number line.

   a. $-3(x - 3) < 24$



   b. $12 \geq \frac{2}{5}x$



6. A number is less than or equal to 2 and greater than $-3$. Write a compound inequality that represents the possible values of the number. Then graph the compound inequality on the number line.



7. Evaluate each expression. Show your work.

   a. $|-7 - 6|$

   b. $\left| \frac{36}{-4} \right|$

8. Solve the absolute value equation.

a. $|-2x + 7| = 11$

b. $-5|x - 9| - 10 = 5$

9. Solve the linear absolute value inequality. Then graph the solution on the number line.

a. $11 \geq |3x - 8|$

b. $3|x - 9| > 12$