

**Algebra I – CC**  
**Unit 3 Review**

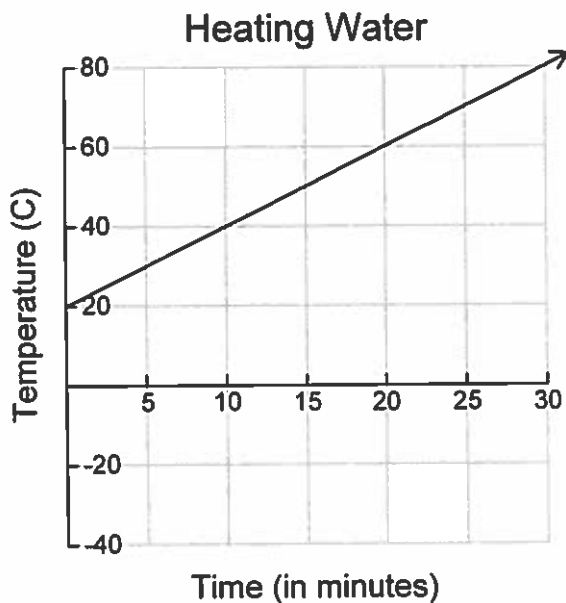
Name: \_\_\_\_\_

1. The table below shows the number of words typed per minute by Mrs. Hurley. Find the rate of change for each time period. (Two points).

Time	8:30	10:30	12:30	2:30	4:30
Words per minute	80	100	90	85	60

During which time period, did the number of words typed per minute decrease the most?

2) (Two points)



The table shows how the temperature of water changes over time when it is heated. Find the slope of the line. What does the slope represent?

3) Josie has 30 balloons and wants to give them equally to “y” friends. (Two points)

(a) Write an expression to show how many balloons each of Josie’s friends will receive.

(b) Evaluate the expression for  $y = 10$ .

4) What is the rule for the following sequence? (One point)

5, 11, 17, 23, .....

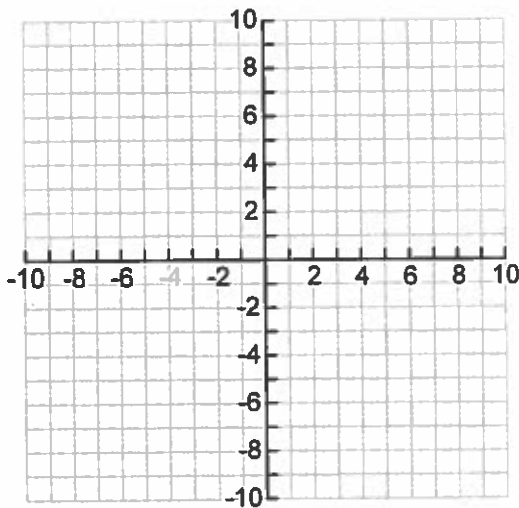
5) A painter charges \$100 for supplies and \$ 55 per hour for his services. Write a function that describes the arithmetic sequence. Find the total cost for a 15 hour job. (Two points)

6) A car rental company charges \$ .45 per mile and a one-time fee of \$49 to cover the usage of the vehicle. The situation is represented by the function below. (Two points)

$$c(m) = .45m + 49.$$

What do the variables represent and which is the dependent variable?

7) Use the x and y-intercepts to graph the line described by the equation  $4x + 6y = 12$ . (Three points)



x-intercept:

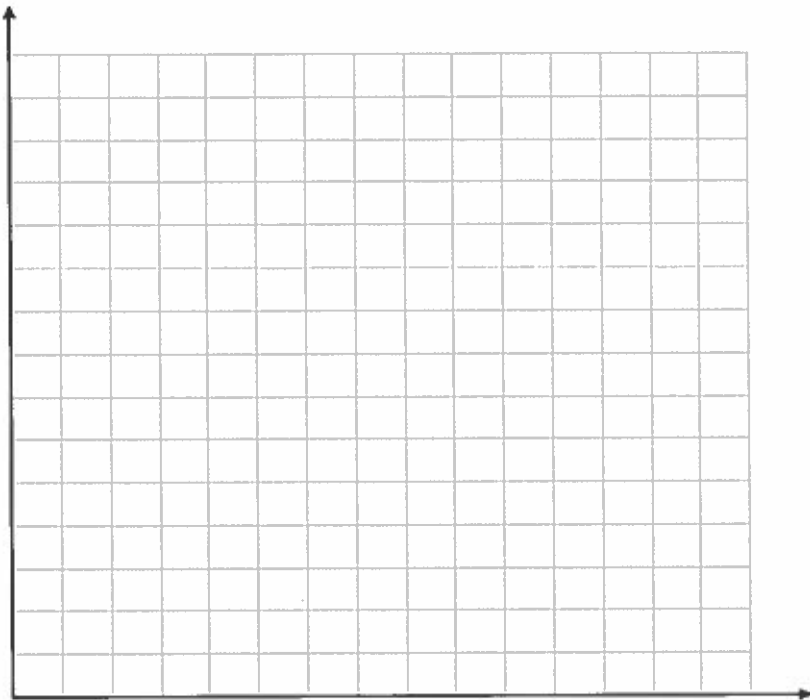
y-intercept:

8) Travis deposits \$250 into his savings account. Each time he rents a video game, he withdraws \$8 from his account. (Two points)

a) Write a linear function that gives the remaining amount in Travis' account after x video game rentals.

b) Find the remaining balance in his account after 12 video games have been rented.

9) A go-cart driver is racing on a track which is 90 meters long. The go-cart travels at a constant speed of 5 meters per second. Write and graph the function to represent the go-kart drivers distance to the end of the track. When will the racer reach the end? (Two points)



10) Devon uses the internet services at a café. He sent 30 facebook messages to his friends. The internet service charges \$ .10 per message and a flat rate of \$6.00 for the use of the internet. The function  $t(f)$  gives the total number of facebook messages Devon sends to his friends each time he uses the internet café and  $g(t)$  gives the amount Devon is charged by the internet café for  $f$  facebook messages. (Two points).

Find  $t(f)$ :

Find  $g(f)$ :

**11) The table below shows the relationship between the level of humidity and the amount of rainfall. (Three points)**

<b>Humidity %</b>	<b>90</b>	<b>80</b>	<b>70</b>	<b>60</b>	<b>50</b>					
<b>Rainfall - inches</b>	<b>0</b>	<b>.5</b>	<b>1</b>	<b>1.5</b>	<b>2</b>					

**a) Complete the table.**

**b) The relationship between the level of humidity and the amount of rainfall is linear. How do the values in the table support this?**

**b) Use the table above, to write the function that shows the relationship between rainfall in inches and humidity percentage.**

**12) Leah has a jar full of pennies and nickels. She has a total of \$ 13.00. The possible number of pennies and nickels can be modeled by the function  $.01x + .05y = 13$  where  $x$  is the number of pennies and  $y$  is the number of nickels. (Two points)**

**a) What is the x-intercept and what does it mean in the context of the problem?**

**b) What is the y-intercept and what does it mean in the context of the problem?**

**Unit 4 Questionnaire****Teacher:** \_\_\_\_\_**Period:** \_\_\_\_\_**1. Pick a color**

Blue

Red

Pink

Orange

**2. Pick a shape**

Circle

Square

Triangle

Rectangle

**3. Pick a shape**

Pentagon

Hexagon

Dodecagon

Octagon

**4. Pick a show**

Family Guy

Simpsons

American Dad

Bob's Burgers

**5. Pick a class**

Math

English

Science

History

**6. Pick a sport**

Soccer

Football

Hockey

Baseball

**7. Pick a letter**

A

B

C

D

**8. Pick a letter**

W

X

Y

Z

**9. Pick a car**

Civic

Camry

Optima

Sentra

**10. Pick a cereal**

Frosted Flakes

Fruit Loops

Lucky Charms

Cocoa Puffs

**11. Pick a candy bar**

Snickers

Milky Way

Twix

Kit Kat

**12. Pick a car model**

Honda

Chevy

Ford

Toyota

**13. Pick a fast food restaurant**

McDonalds

Burger King

Arby's

Taco Bell

**14. Pick a flavor**

Grape

Apple

Lemon

Cherry

**15. Pick a toy**

Tamagotchi

Simon

Lite bright

Etch-a-Sketch

<b>16. Pick a Pet</b> Cat	Dog	Fish	Hermit Crab
<b>17. Pick a teacher</b> Mr. Howard	Mr. Alvarez	Mr. Allen	Mr. Shaw
<b>18. Pick a number</b> 14	53	25	91
<b>19. Pick a provider</b> Verizon	AT&T	Sprint	T-Mobile
<b>20. Pick a Phone</b> iPhone 5	iPhone 5s	iPhone 5c	iPhone 6
<b>21. Pick a Brand</b> Nike	Under Armour	Adidas	Reebok
<b>22. Pick a Flower</b> Rose	Sunflower	Tulip	Carnation
<b>23. Pick a T.V. Show</b> Walking Dead	Breaking Bad	Supernatural	Sons of Anarchy
<b>24. Pick a City</b> Saint Luis	San Antonio	Omaha	Little Rock
<b>25. Pick an animal</b> Penguin	Elephant	Monkey	Ferret
<b>26. Pick a beverage</b> Coffee	Tea	Cappuccino	Latte
<b>27. Pick a Soda</b> Mountain Dew	Pepsi	Coke	Dr. Pepper
<b>28. Pick a Cuisine</b> Italian	Chinese	Mexican	French
<b>29. Pick a Civilization</b> Sumerian	Babylonian	Han	Roman
<b>30. Pick a Team</b> Eagles	Redskins	Ravens	Steelers