Chapter 3 - Linear Equations and Functions

3.4 Objective: To find the **equation** of a line given its **slope** and a **point** on the line, or **two points**.

Agenda

1) In groups- answer HW questions (5 min)

last night's HW

2) Do Now (5 min) ***p. 121 #1, 7, 13, 19, 23, 31***

3) Stations Activity (5 min per station)
"Communicating What we know About Linear Equations"

- Each group member will fill out his/her own sheet

- at the end of class I will **randomly** select **one** sheet from **one** group member and **grade** it. **This grade will be given to each group member.**

*Remember the circles activity- no one is done unless everyone is done!

HW:
Practice Problems Worksheet

**Check answers in back. MUST SHOW CHECKS FOR FULL CREDIT

TEST on Ch 3 Sections 1-4 on MONDAY
(for Term 1)

DO NOW

Ms. Paris' new Prius cost $25,000.
It depreciates (loses value) by $3,500 a year.

a) Write a **rule** modeling this situation.

b) Define your variables.

c) What will the car be worth after 3 years?

d) In how many years will the car be worth **less than** $5,000?

HW:
Practice Problems Worksheet

**Check answers in back. MUST SHOW CHECKS FOR FULL CREDIT

TEST on Ch 3 Sections 1-4 on MONDAY
(for Term 1)

Name_____

Practice Problems Worksheet: Block_____

1) Determine if (3,-2) is a solution to the equation y = 4x -14

2) Find two different **integer** solutions to the equation y = -2/5x -3 .

3) Give the coordinates (*x*,*y*) of the *x*-intercept and the *y*-intercept for the equation 3x - 5y = 15 .

4)Given the following equation:4x - 6y = 12.

a) What is the **slope** of the line.

b) Write an equation of a line **parallel** to the given equation.

c) Write an equation of a line **perpendicular** to the given equation.

5) Given the point (-3,2).

a) Write the equation of a **horizontal** line that passes through the point.

b) Write the equation of a **vertical** line that passes through the point.

6) A line contains the points (5,-3) and (9,2).

a) Find the equation of the line in **point - slope** form.

b) Write an equation of a line **parallel** to the given equation.

c) Write an equation of a line **perpendicular** to the given equation.

7) A photocopy machine purchased new for $4500 **loses** $900 in value each year.

a) Write a rule expressing the value of the machine after any amount of **years**.

b) Calculate the value of the machine after 18 **months**. (How many months in a year?)

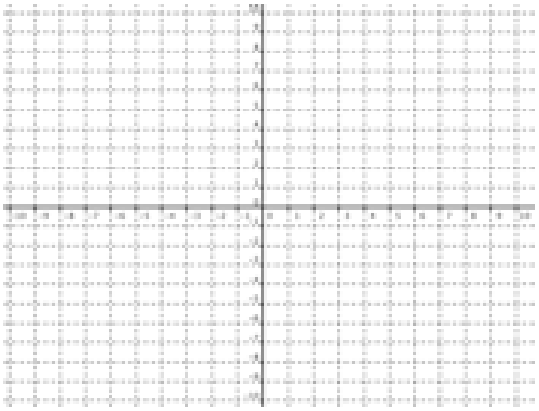
c) **When** will the value be $1200?

8) A plumber charged $110 for a 3- hour job, and $160 for a 5- hour job.
At this rate, how much would he charge for an 8 - hour job?
(HINT: (x, y) (x, y)
x = hours y = $money
Calculate the slope, create an equation, then solve for 8 hours.)

Name: Date:

STATION 1

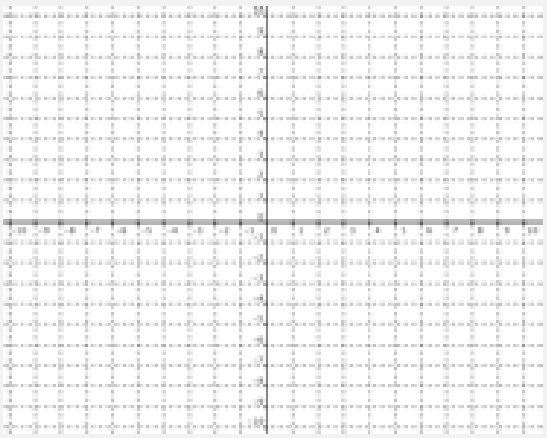
Communicating what we know about linear equations

Equation	Table of Values
Original Equation: $x - 3y = 7$	x | y
Graph	**Communication**
	What is the slope of the given equation? What are the x and y intercepts?

Name: Date:

STATION 2
Communicating what we know about linear equations

Verbal Model	Algebraic Model
The local cable TV company charges a flat rate of $244 per month and $6.25 for each pay-per-view movie.	Write a rule for the total charges from the cable company.

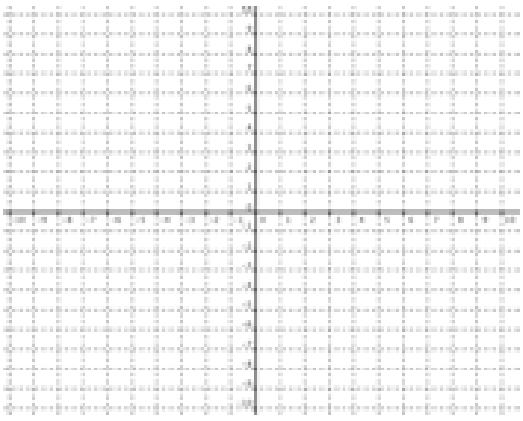
Numerical Model (Table)	Graphical Model
Create a table that shows the total cost charges base on the number of pay-per-view movies.	

x (# of movies)		y (total cost)
0		
1		
2		
3		
4		
5		
6		
x		

Name: Date:

STATION 3

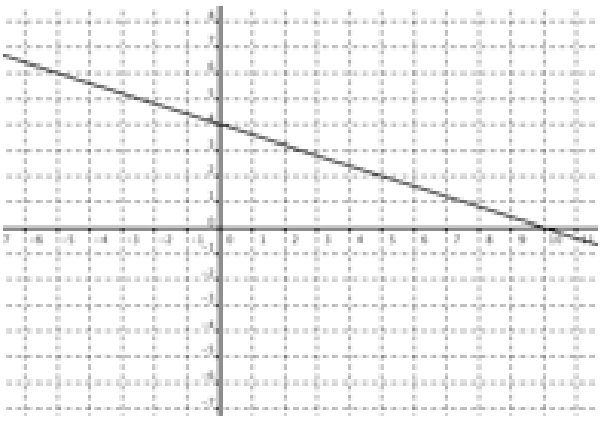
Communicating what we know about linear equations

Equation	Table of Values
Write a linear equation in **point-slope form**:	x | y -3 | -8 -1 | -2 0 | 1 1 | 4 3 | 10
Graph	**Communication**
	What is the slope of the given equation? What are the x and y intercepts?

Name: Date:

STATION 4

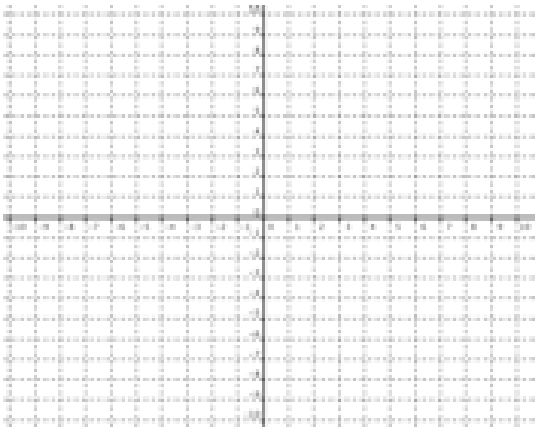
Communicating what we know about linear equations

Equation	Table of Values
Write a linear equation in **point-slope form**: **slope-intercept form:**	x | y | | | | | | | | | |
Graph	**Communication**
	What is the slope of the given equation? What are the x and y intercepts?

Name: Date:

STATION 5

Communicating what we know about linear equations

Equation	Table of Values
Write a linear equation in **point-slope form**: **slope-intercept form:**	x | y 5 | -10 4 | -8 3 | -6 2 | -4 1 | -2
Graph	**Communication**
	What is the slope of the given equation? What are the x and y intercepts?

Name: Date:

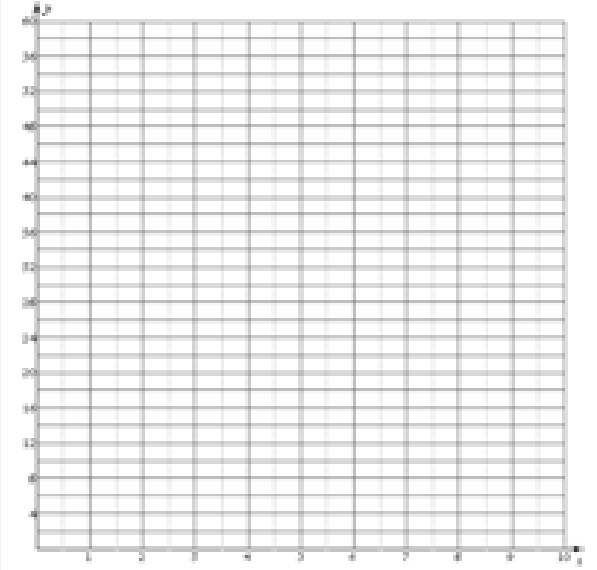
STATION 6
Communicating what we know about linear equations

Verbal Model	Algebraic Model
Ms. Rivera has a lawn-moving service. She charges a flat fee of $5 for gas, plus a fee of $4.50 per hour for labor.	Write a rule for the total cost of hiring Ms. Rivera.

Numerical Model (Table)	Graphical Model

Create a table that shows the total cost based on the number of hours Ms. Rivera works.

x (#of Hours)		y (total cost)
0		
1		
2		
3		
4		
5		
6		
x		



Name: Date:

STATION 7

Communicating what we know about linear equations

Verbal Model

The cost for a child to attend The Learning Station summer camp is $19 a day plus a registration fee of $30.

Algebraic Model

Write a rule for the total cost for a child to attend the summer camp.

Numerical Model (Table)

Create a table that shows the total cost based on the number of children who attend.

x (#of Days)		y (total cost)
1		
2		
3		
4		
5		
6		
7		
x		

Graphical Model