Math 8 Unit 7
Solving Systems of Equations

Volume 1 Issue 7

References

McGraw Hill Georgia Math 8 Volume 2:

Chapter 9 – Lessons 3 & 4

Georgia Math Online:

www.connectED.mcgraw-hill.com

Links:

http://www.purplemath.com/modules/systlin1.htm

https://my.hrw.com/math11/math06_07/nsmedia/lesson_videos/alg1/player.html?contentSrc=7529/7529.xml

http://mathbitsnotebook.com/Algebra1/Systems/SYlinear.html

http://mathbitsnotebook.com/Algebra1/Systems/SYlinearGraphic.html

http://mathbitsnotebook.com/Algebra1/Systems/SYlinearAlgebra.html

Dear Parents:

Below you will find a list of concepts that your child will use and understand while completing Unit 7 Solving Systems of Equations. Also included are references, vocabulary and examples that will help you assist your child at home.

Concepts Students will Use and Understand

- Analyze and solve systems of linear equations.
- Understand and solve systems of equations graphically and algebraically, using technology as appropriate.
- Solve real-world problems leading to two linear equations with two variables.

Vocabulary

Coefficients: a numerical factor in a term of an algebraic expression.

Intersecting Lines: lines that have one point in common or all points in common.

Linear Combination Method: a technique for solving a system of equations that involves combining two equations in order to eliminate one of the variables and solving for the remaining variable. Adding, subtracting, or multiplying a system of equations to help solve the system.

Simultaneous equations: Another name for a system of Linear Equations

Substitution Method: a technique for solving a system of equations that involves replacing one variable with an equivalent expression and solving for the remaining variable.

System of Linear Equations: two or more equations that together define a relationship between variables usually in a problem situation. A system of equations can have no solution, one solution, or many solutions.

Try http://intermath.coe.uga.edu/ for additional help.
www.ceismc.gatech.edu/csi

QUIZ DATE: TEST DATE:

NAME:_____

Solving Systems of Equations

Example 1

Solve the system of equations using any method you choose.

$2x + y = 7$
$x - 3y = 0$

Example 2

Determine whether either of the points (–1, –5) and (0, –2) is a solution to the given system of equations.

$y = 3x - 2$
$y = -x - 6$

Example 3

Gustav has 35 dimes and quarters that total $5.00. Solve a system of equations to find out how many dimes and how many quarters he has.

Key

Example 1

(3,1)

Example 2

To check the given possible solutions, I just plug the *x*- and *y*-coordinates into the equations, and check to see if they work.

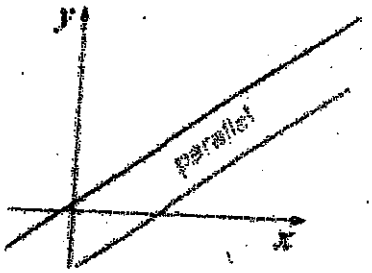
(-1, -5) is the only point that satisfies both equations so it is a solution.

Example 3

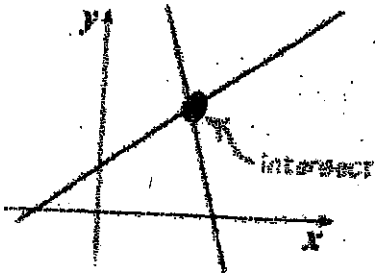
Let d = # of dimes and q = # of quarters
d + q = 35 and 0.1d + 0.25q = 5

He has 25 dimes and 10 quarters

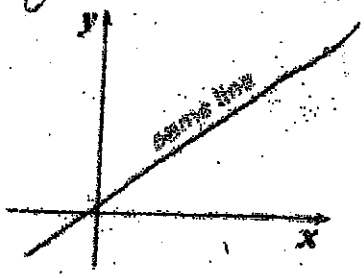
Systems of Equations



No Solution



One Solution



∞ Solutions

"Student-Friendly" Standards for Math Grade 8

Unit 7 Solving Systems of Equations

Standard Code	Mastery Level	Standard
8.EE.8		I can analyze and solve systems of equations.
		I can solve and explain (in terms of the situation) a system of linear equations graphically, including those that have no solution or infinitely many solutions.
		I can solve and explain (in terms of the situation) a system of linear equations algebraically, and estimate solutions including those that have no solution or infinitely many solutions.
		I can solve real-world problems involving a system of linear equations.

NAME _____ DATE _____ PERIOD _____

Reteach

Graph a Line Using Intercepts

Standard form is when an equation is written in the form $Ax + By = C$.

Example

State the x- and y-intercepts of $3x + 2y = 6$. Then graph the function.

Step 1 Find the x-intercept.

To find the x-intercept, let $y = 0$.

$3x + 2y = 6$	Write the equation.
$3x + 2(0) = 6$	Replace y with 0.
$3x + 0 = 6$	Multiply.
$3x = 6$	Simplify.
$x = 2$	Divide each side by 3.

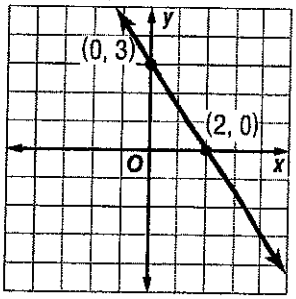
The x-intercept is 2.

Step 2 Find the y-intercept.

To find the y-intercept, let $x = 0$.

$3x + 2y = 6$	Write the equation.
$3(0) + 2y = 6$	Replace x with 0.
$0 + 2y = 6$	Multiply.
$2y = 6$	Simplify.
$y = 3$	Divide each side by 2.

The y-intercept is 3.

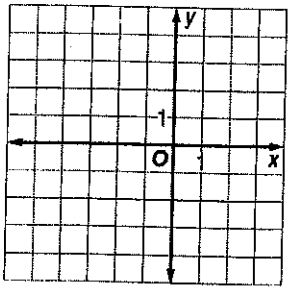


Step 3 Graph the points (2, 0) and (0, 3) on a coordinate plane. Then connect the points.

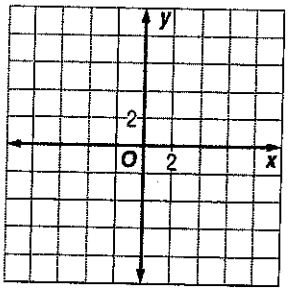
Exercises

State the x- and y-intercepts of each function. Then graph the function.

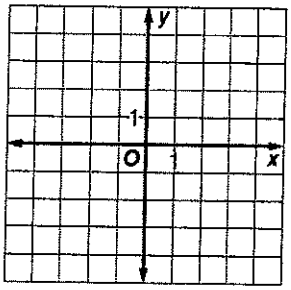
1. $3x + 5y = -15$



2. $-2x + y = 8$



3. $-4x - 3y = -12$



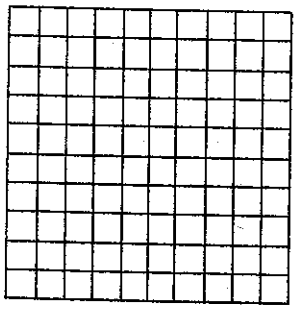
NAME _____ DATE _____ PERIOD _____

Extra Practice

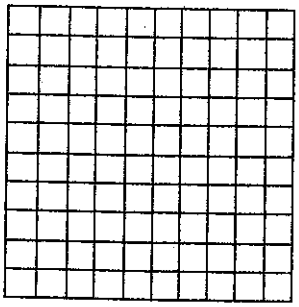
Graph a Line Using Intercepts

State the *x*- and *y*-intercepts of each equation. Then use the intercepts to graph the equation.

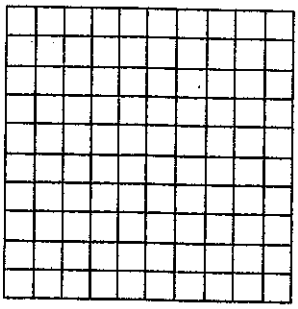
1. $3x + y = 9$



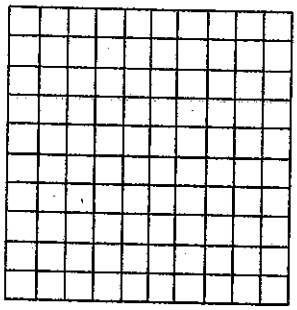
2. $-2x + y = 6$



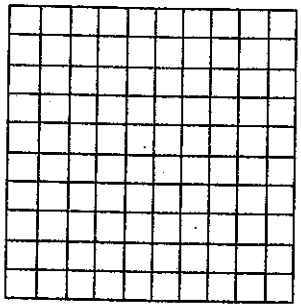
3. $3x - 2y = 12$



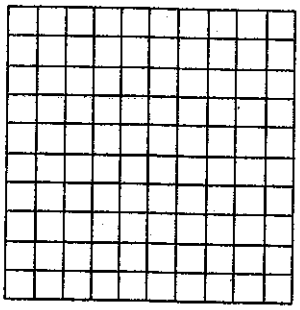
4. $2x - y = 6$



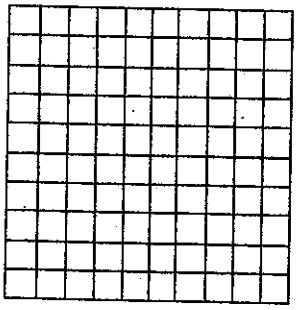
5. $2x - 4y = 8$



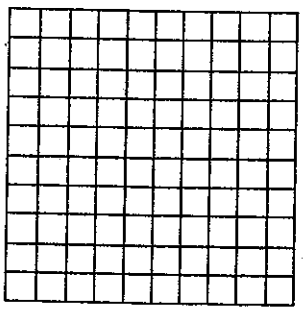
6. $-5x + y = -10$



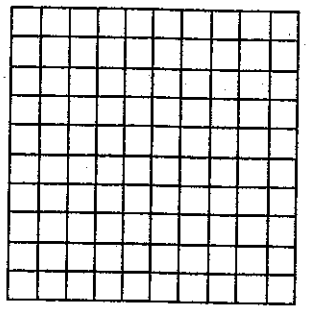
7. $6x + 2y = 12$



8. $5x - 2y = 15$



9. $-4x - 3y = 24$



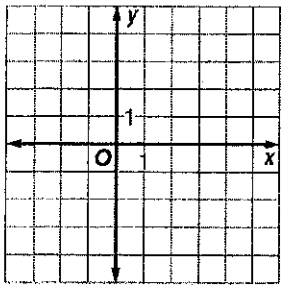
NAME _____ DATE _____ PERIOD _____

Skills Practice

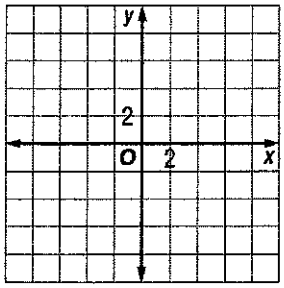
Graph a Line Using Intercepts

State the *x*- and *y*-intercepts of each function. Then graph the function.

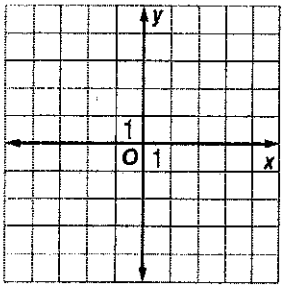
1. $3x - 5y = 15$



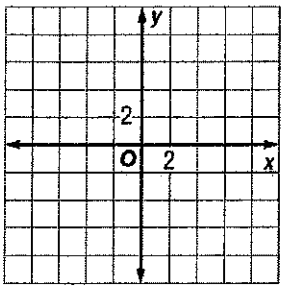
2. $-\frac{1}{2}x + 3y = -3$



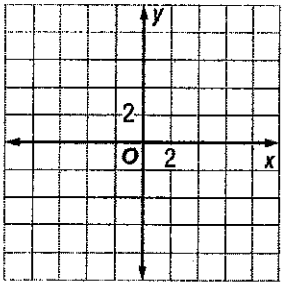
3. $4x - 6y = 12$



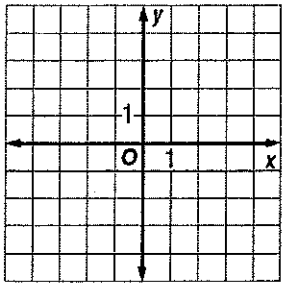
4. $7x + 3y = -21$



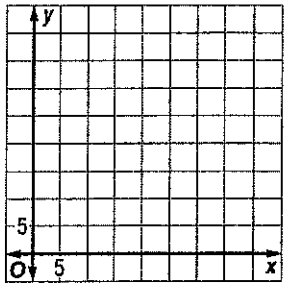
5. $\frac{2}{3}x - \frac{1}{3}y = 2$



6. $-x + y = -2$



7. DRINKS Ms. Purdy bought coffee and orange juice for her coworkers in her office. She bought x cups of coffee at \$2 per cup and y cups of orange juice at \$1.50 per cup. Altogether she spent \$30. This can be represented by the function $2x + 1.5y = 30$. Graph the function. Then interpret the x- and y-intercepts.



NAME _____ DATE _____ PERIOD _____

Homework Practice

Graph a Line Using Intercepts

State the x- and y-intercepts of each function.

1. $-6x + 8y = 24$

2. $\frac{3}{4}x - 6y = 18$

3. $-\frac{1}{4}x - \frac{1}{3}y = 12$

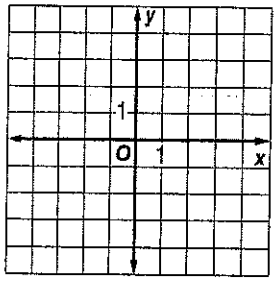
4. $-10x - 10y = -20$

5. $x + y = 1$

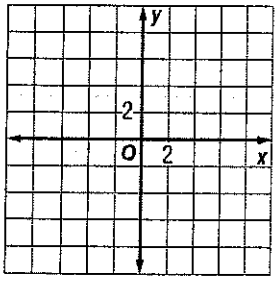
6. $-x - y = \frac{1}{2}$

State the x- and y-intercepts of each function. Then graph the function.

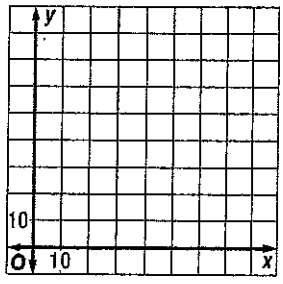
7. $-4x + 2y = -8$



8. $6x - 2y = -18$



9. FARMING Mr. Jeans raises cows and chickens on his farm. Altogether, his cows and chickens have 140 legs. This can be represented by the function $4x + 2y = 140$. Graph the function. Then interpret the x- and y-intercepts.



10. MONEY Monty has a total of $290 in ten dollar and five dollar bills. This can be represented by the function $10x + 5y = 290$. Interpret the x- and y-intercepts.

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8.EE.C.8.A

Expressions & Equations

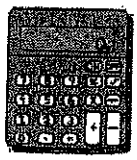
Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.

I can _____.

What is slope-intercept form?

What is standard form?

Standard Form



Steps to converting an equation from:

Standard Form to Slope-Intercept Form

Step 1:

Step 2:

Step 3:

Example:

Convert $4x + 2y = 8$ into slope-intercept form.

Slope-Intercept Form to Standard Form

Step 1:

Step 2:

Step 3:

Example:

Convert $y = -\frac{3}{4}x + 5$ into standard form.

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Show your work! Name: _____

① $3x + y = 10$	② $-2x + y = 5$
③ $\frac{3}{4}x + y = 7$	④ $-\frac{2}{3}x + y = 8$
⑤ $7x - y = 4$	⑥ $\frac{1}{3}x - y = 5$
⑦ $8x + 2y = 10$	⑧ $-3x + \frac{1}{3}y = 12$

Name: _____

Solve for y.

(1) $x + y = 5$

(2) $-3x + y = -2$

(3) $x - y = 7$

(4) $-4x - y = 1$

(5) $3x - y = -10$

(1)

(2)

(3)

Answers:

(E) $y = -4x - 1$

(F) $y = 3x - 1$

(P) $y = -x + 5$

(W) $y = x - 7$

(Y) $y = 3x + 10$

(O) $y = 3x - 2$

(4)

(5)

Show your work!

Name: _____

Show your work!

Solve for y.

(6) $-x + 2y = 6$

(7) $x - 2y = 2$

(8) $-2x + 3y = -12$

(9) $5x + 2y = 1$

(10) $4x - 3y = -2$

(6)

(7)

(8)

Answers:

(D) $y = -\frac{5}{2}x + \frac{1}{2}$

(U) $y = \frac{1}{2}x + 3$

(L) $y = \frac{4}{3}x + \frac{2}{3}$

(G) $y = \frac{3}{4}x - 4$

(H) $y = \frac{1}{2}x - 1$

(B) $y = \frac{2}{3}x - 4$

(9)

(10)

9

8

Name: _____

Solve for y.

(11) $3x + 2y - 6 = 0$

(12) $x - 4y + 2 = 0$

(13) $-2x - 6y = 0$

(14) $8y - 3x = -6$

(15) $7x = 2y$

Answers:

(N) $y = \frac{4}{3}x + \frac{1}{4}$

(S) $y = \frac{3}{8}x - \frac{3}{4}$

(R) $y = \frac{1}{4}x + \frac{1}{2}$

(A) $y = -\frac{3}{2}x + 3$

(T) $y = \frac{7}{2}x$

(M) $y = -\frac{1}{3}x$

11

12

13

14

15

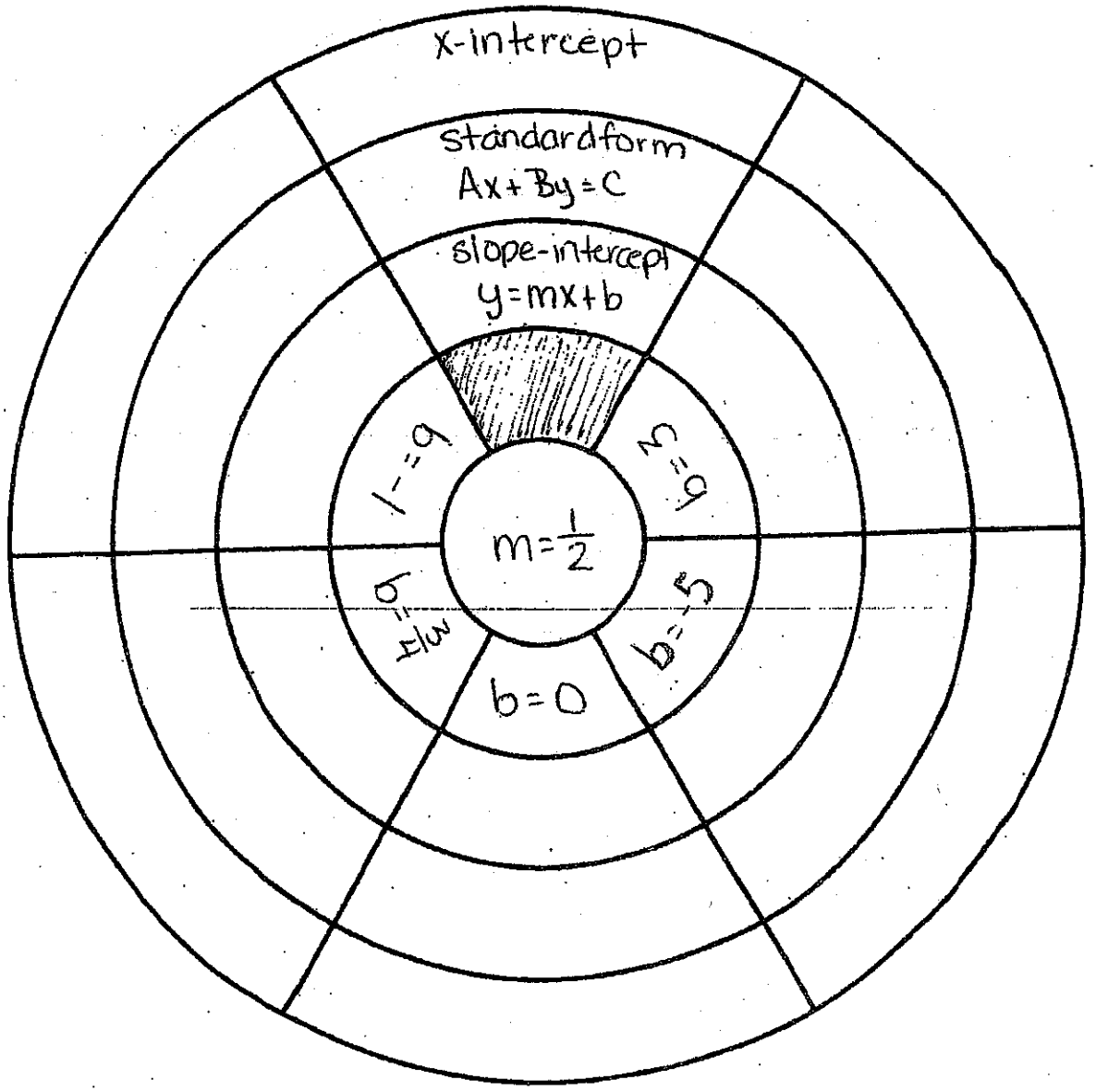
10

how your work!

Bull's Eye
Working with Lines

Name _____
Date _____ Hr_____

In the center of the Bull's Eye, there is the slope of a line. In the first ring, there is the y-intercept of that line. In the following ring, write the slope-intercept form of the line. In the next ring, write the standard form of the line, and in the final ring, find the x-intercept of the line.



WORK SPACE

GRAPHING NOTES

8.EE.C.8.A

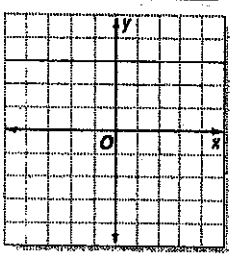
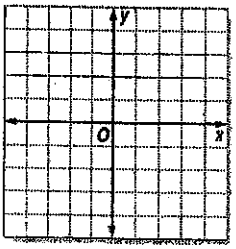
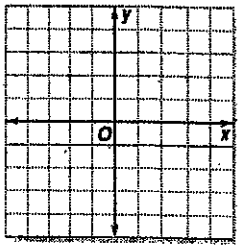
Expressions & Equations

Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.

I can _____.

What is a solution?

Solutions to a System of Linear Equations

No Solutions	One Solution	Infinitely Many Solutions
		

Determine the # of solutions for the following equations:

1.) $y = -2x + 1$
$y = -2x - 3$

# of Solutions: _____

2.) $2x + y = 5$
$y = -3x + 2$

# of Solutions: _____

3.) $y = 4x - 2$
$-8x + 2y = -4$

# of Solutions: _____

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Name_____

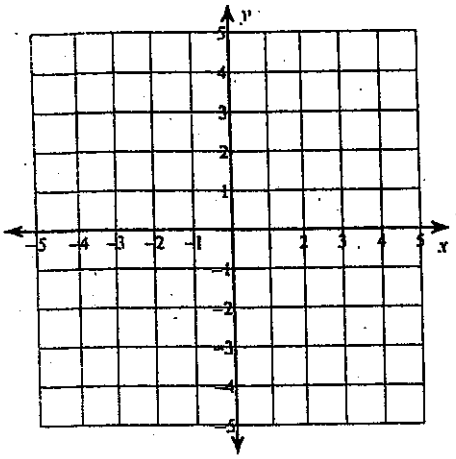
Solving Systems of Equations by Graphing

Date_____ Period____

Solve each system by graphing.

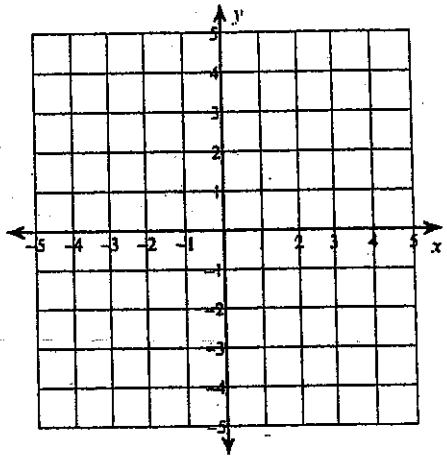
1) $y = \frac{1}{3}x - 4$

$y = -\frac{7}{3}x + 4$



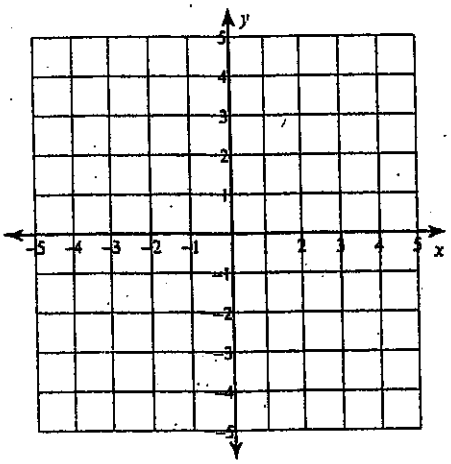
2) $y = \frac{1}{3}x + 3$

$y = 2x - 2$



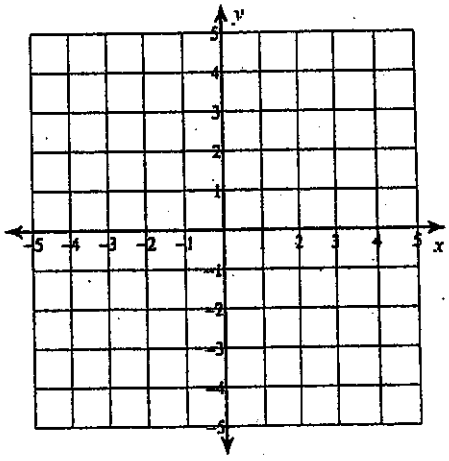
3) $y = -7x - 3$

$y = 4$



4) $y = -\frac{2}{3}x - 2$

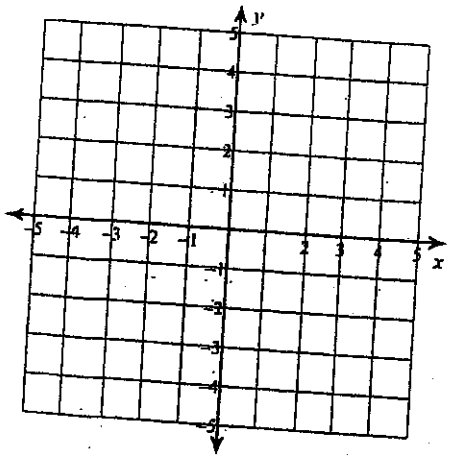
$y = -\frac{8}{3}x + 4$



GRAPHING NOTES

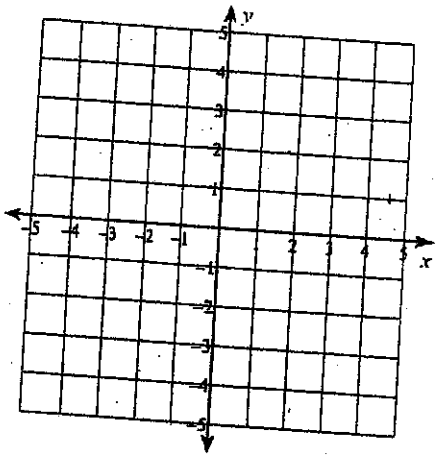
5) $y = -\frac{2}{3}x - 3$

$y = -\frac{2}{3}x + 4$



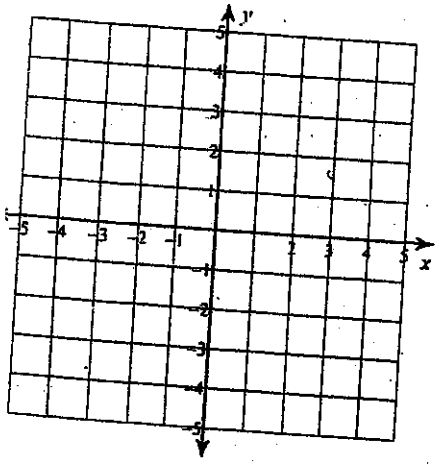
6) $y = -6x - 3$

$y = -x + 2$



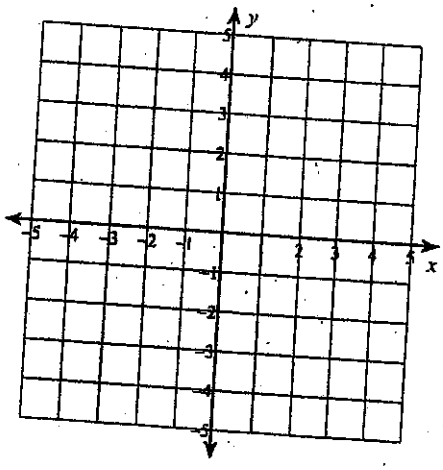
7) $y = -\frac{3}{4}x + 4$

$y = \frac{1}{2}x - 1$



8) $y = \frac{5}{2}x - 4$

$y = -x + 3$



GRAPHING HW

Name _____ Date _____ Class _____

LESSON 6-1

Practice B

Solving Systems by Graphing

Tell whether the ordered pair is a solution of the given system.

1. $(3, 1)$; $\begin{cases} x + 3y = 6 \\ 4x - 5y = 7 \end{cases}$ _____

$x + 3y = 6$ $\quad$ $4x - 5y = 7$

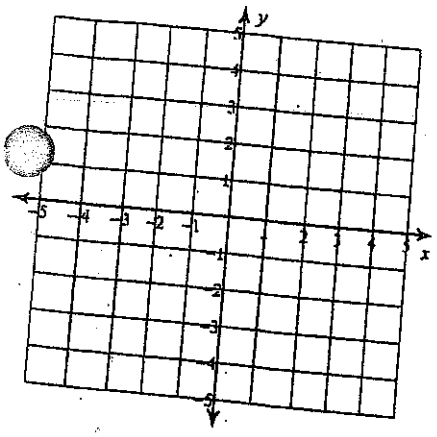
2. $(6, -2)$; $\begin{cases} 3x - 2y = 14 \\ 5x - y = 32 \end{cases}$ _____

$3x - 2y = 14$ $\quad$ $5x - y = 32$

Solve each system by graphing. Check your answer.

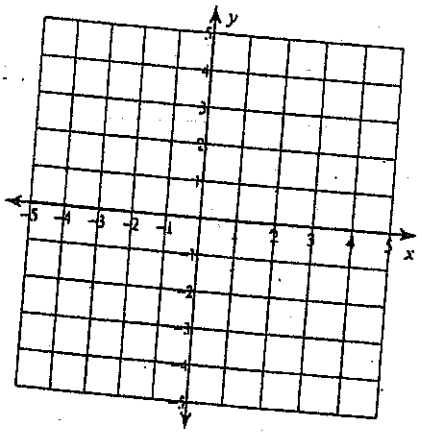
3) $y = -\frac{1}{2}x - 1$

$y = \frac{1}{4}x - 4$



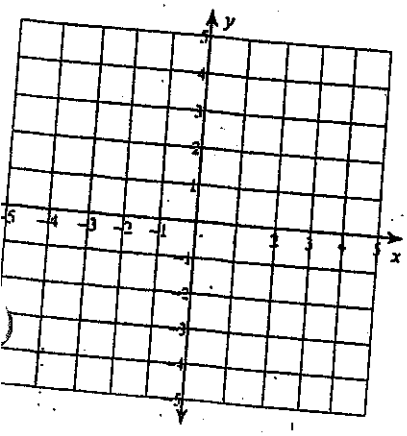
4) $y = -1$

$y = -\frac{5}{2}x + 4$



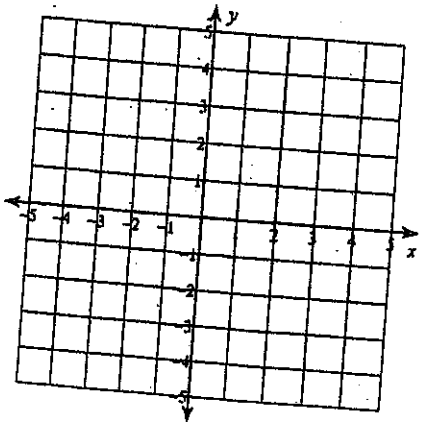
5) $y = 3x - 4$

$y = -\frac{1}{2}x + 3$



6) $y = -2x + 2$

$y = -2x - 2$



Substitution Notes

8.EE.C.8.B **Expressions & Equations**

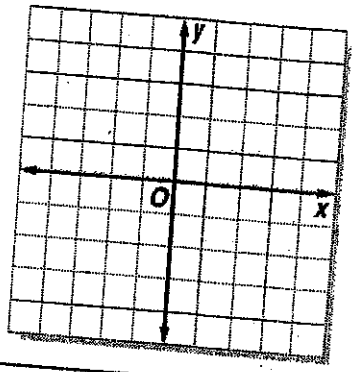
Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.

I can _____.

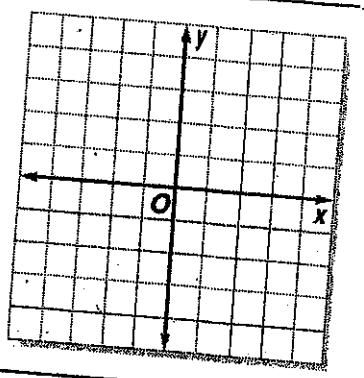
What is substitution?

Substitution

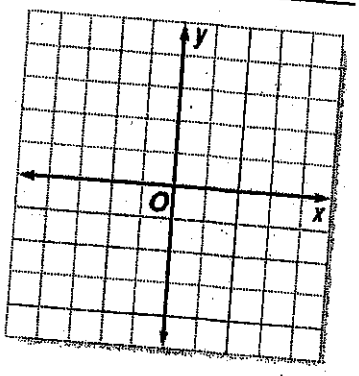
Solve the following system of linear equations using substitution then graph the two lines.



Point of intersection = _____



Point of intersection = _____



Point of intersection = _____

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Substitution HW Day 1

NAME _____ DATE _____ PERIOD _____

Skills Practice

Set equal to equal to each other

Solve Systems of Equations Algebraically

Solve each system of equations algebraically.

1. $y = x - 8$
   $y = 5x$

2. $y = -x - 4$
   $y = 3x$

3. $y = x + 11$
   $y = 12x$

4. $y = x - 14$
   $y = -6x$

5. $y = -x + 9$
   $y = 2x$

6. $y = x + 15$
   $y = -4x$

7. $y = -x - 10$
   $y = 4x$

8. $y = x + 24$
   $y = -7x$

9. $y = -x + 18$
   $y = 8x$

Write and solve a system of equations that represents each situation. Interpret the solution.

10. **TELEVISION** Videl watched 6 times as many hours of television over the weekend as Dineen. Together they watched a total of 14 hours of television. How many hours of television did each person watch over the weekend?

11. **CROSS-COUNTRY SKIING** Lucida is a cross-country ski racer. On Saturday, she skied twice as many miles as she did on Sunday. Over the weekend she skied a total of 63 miles. How far did she ski on each day?

12. **DARTS** Bryson and Lilly played a game of darts, and Lilly scored 4 more points than Bryson. The total of their scores was 180. How many points did each of them score?

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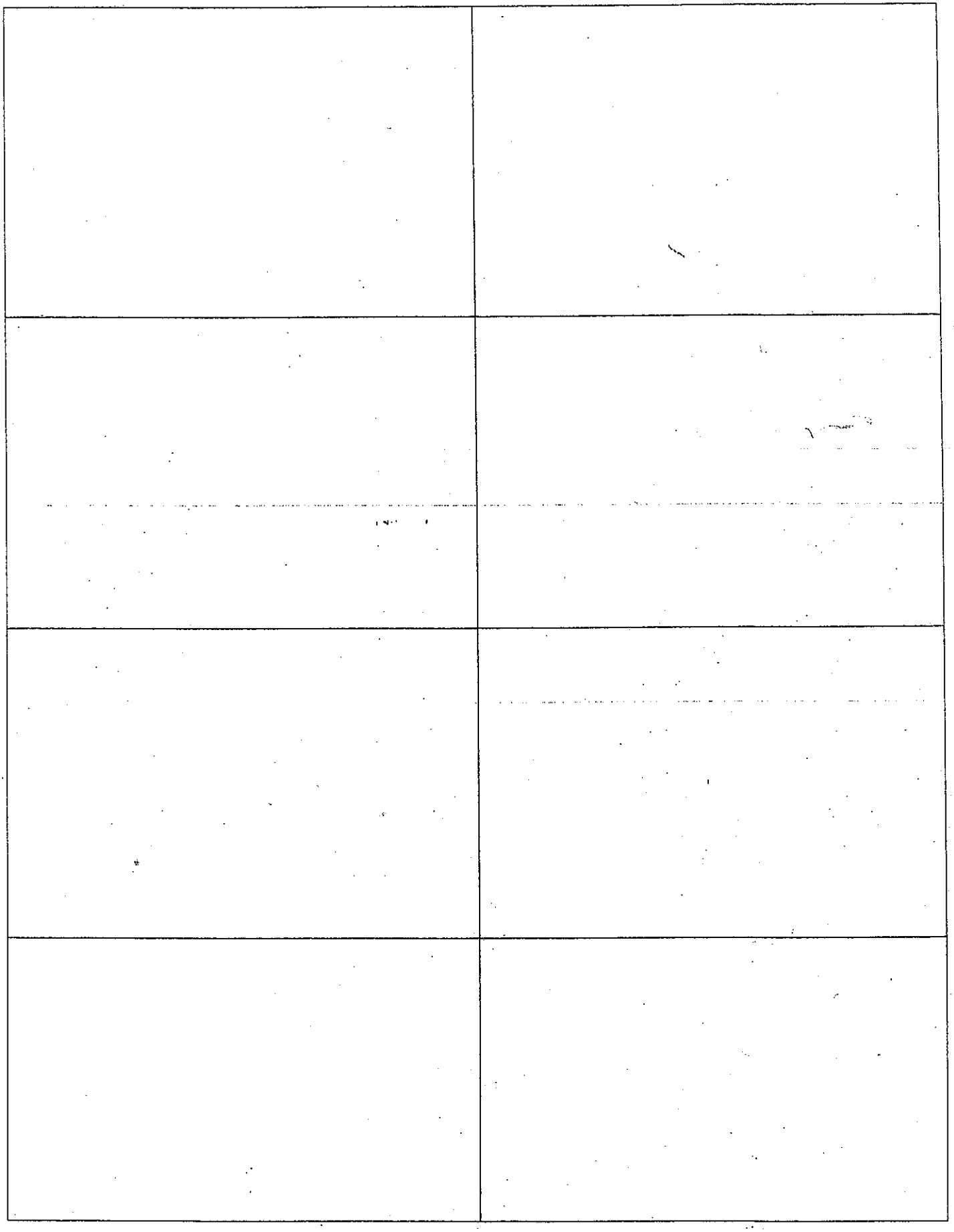

1 Isolate, 2 Substitute, 3 Solve SUBSTITUTION HW Day 2

Kuta Software - Infinite Algebra 1 Name_____

Solving Systems of Equations by Substitution

Date_____ Period____

Solve each system by substitution.

1) $y = 6x - 11$
$-2x - 3y = -7$

2) $2x - 3y = -1$
$y = x - 1$

3) $y = -3x + 5$
$5x - 4y = -3$

4) $-3x - 3y = 3$
$y = -5x - 17$

5) $y = -2$
$4x - 3y = 18$

6) $y = 5x - 7$
$-3x - 2y = -12$

7) $y = 4x + 6$
$y = -5x - 21$

8) $y = 5x - 3$
$3x - 8y = 24$

9) $y = 5x - 2$
$-3x + 6y = -12$

10) $y = x + 3$
$-3x + 3y = 4$

17

Elimination Notes p.1

How Do You Solve a System of Equations by Elimination?

S

#1. Make sure equations are in standard form and then look at the coefficients and decide whether x or y would be easiest to eliminate by adding the two equations together. Otherwise, go to #2.

M

#2. Decide what to multiply each equation by so that when you add the two, a variable will be eliminated. Look for the least common multiple of the coefficients.

A

#3. Add the two equations together.

S

#4. Solve for the remaining variable.

H

#5. Substitute the value back into one of the original equations and solve for the other variable.

$x + y = 6$
$-x + 2y = 0$

Eliminate x or y?_____

Multiply 1st by _____
Multiply 2nd by _____

Add

Solution:_____

$-12x + 3y = -3$
$6x - 3y = -3$

Eliminate x or y?_____

Multiply 1st by _____
Multiply 2nd by _____

Add

Solution:_____

Elimination Notes P.2

$-4x - 3y = -5$
$2x - 3y = 7$

Eliminate x or y?_____

Multiply 1st by _____
Multiply 2nd by _____

Add

Solution:_____

$-x + y = 1$
$3x + y = 5$

Eliminate x or y?_____

Multiply 1st by _____
Multiply 2nd by _____

Add

Solution:_____

$3x + 2y = -6$
$2x + 5y = 7$

Eliminate x or y?_____

Choos

-2
3

$-6x - 4y = 12$
$6x + 15y = 21$

Multiply 1st by _____
Multiply 2nd by _____

$-6x - 4y = 12$
$6x + 15y = 21$

Add

$11y = 33$

$11y = 33$

y= ____

3

$3x + 2(3) = -6$
$3x + 6 = -6$
$3x = -12$
x = ____

-

$3x - 2y = 2$
$5x - 5y = 10$

Eliminate x or y?_____

Multiply 1st by _____
Multiply 2nd by _____

Add

Solution:_____

Elimination Day 1 (HW)

ALGEBRA WITH PIZZAZZ!
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What Do You Call It When Someone Pays Back a Loan Quickly?

Solve each system of equations below by the addition method. Find the solution in the coordinate system and notice the letter at that point. Print this letter in each box at the bottom of the page that contains the number of that exercise.

① $x + y = 5$
$3x - y = 7$

② $2x + y = 3$
$-2x + 5y = -9$

③ $3x + 5y = 0$
$2x - 5y = -25$

④ $-4x - y = -6$
$4x + 3y = 18$

⑤ $2x - y = -5$
$-2x - 5y = 11$

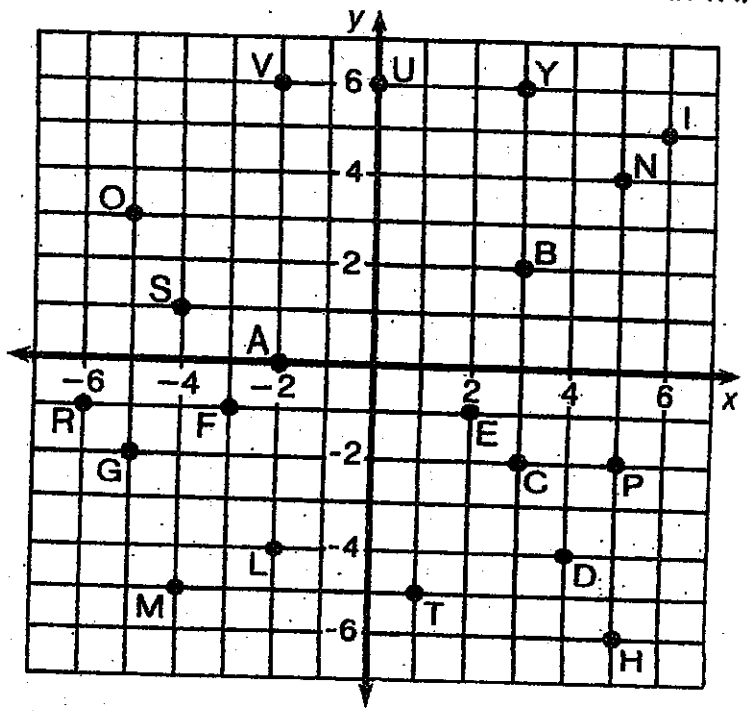
⑥ $8 = 4x - 3y$
$17 = x + 3y$

⑦ $-6 = 3x + y$
$10 = -5x - y$

⑧ $3x + 8y = -1$
$-3x + y = -17$

⑨ $x + 2y = 15$
$5x = 2y + 3$

⑩ $7x - y = 12$
$-3y = 7x + 8$



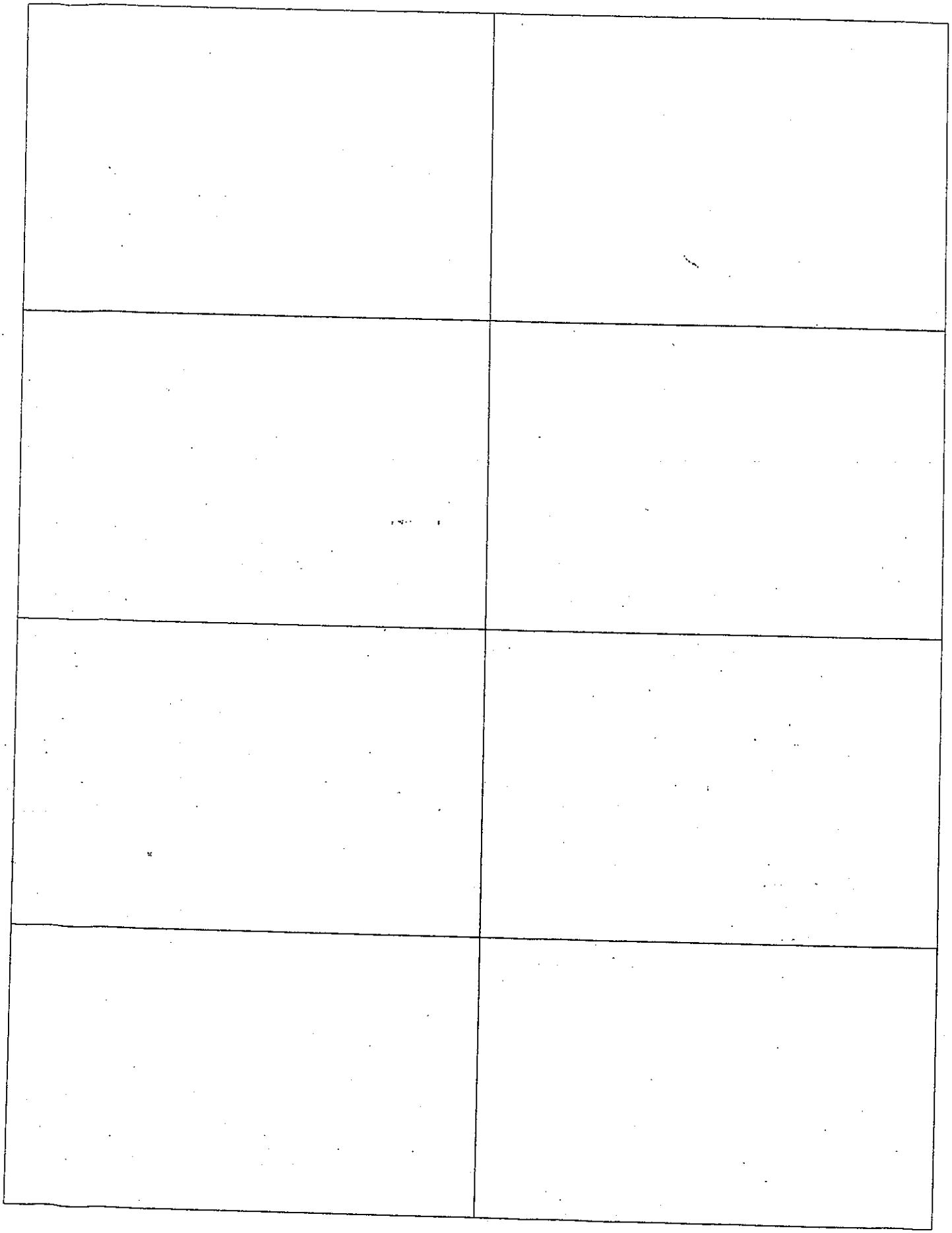
⑪ $y = 3x + 13$
$2x = y - 9$

⑫ $4x + 12 = -7y$
$-y + 12 = 4x$

7	11	4	12	12	2	6	12	2	1	10	8	7	9	3	5	5

OBJECTIVE 6-c: To solve systems of equations by the addition method (no multiplication is required).

23



ELIMINATION DAY 2 +HW

OBJECTIVE 6–d: To solve systems of equations by the addition method (multiplication by −1 may be required).

What Kind of Shoes Does a Frog Wear?

Solve each system of equations by the addition method. (You may first have to multiply both sides of one equation by −1.) Find your answer below and cross out the letter above it. When you finish, the answer to the title question will remain.

① $5x - 2y = 4$
$x + 2y = 8$

② $-3x + 2y = 11$
$3x - 4y = -19$

③ $3x + y = 13$
$x + y = 3$

④ $6x - 2y = 10$
$x - 2y = -5$

⑤ $5x + y = 2$
$5x - 3y = 14$

⑥ $7x - 4y = -10$
$-x + 4y = -2$

⑦ $4x + 9y = -7$
$x + 9y = 5$

⑧ $3x = 5y - 9$
$-3x = -2y + 3$

⑨ $x + 2y = -2$
$4x + 2y = -17$

⑩ $-6x - 5y = 20$
$-6x - y = 4$

⑪ $-3x + y = -2$
$7x - y = -2$

⑫ $10x - 3y = 5$
$2x - 3y = 1$

S	H	O	L	D	P	R	E	S	A	N	T	I	O	E	N	A	I	D	R
$(0, -4)$	$(\frac{1}{2}, 0)$	$(3, 7)$	$(\frac{1}{3}, 2)$	$(-2, -1)$	$(-5, 3)$	$(3, 4)$	$(\frac{1}{2}, 2)$	$(2, 3)$	$(-4, 1)$	$(2, -4)$	$(-2, 2)$	$(-1, -5)$	$(-1, 6)$	$(-1, 4)$	$(-5, \frac{3}{2})$	$(5, -3)$	$(5, -2)$	$(-5, 4)$	$(1, -3)$

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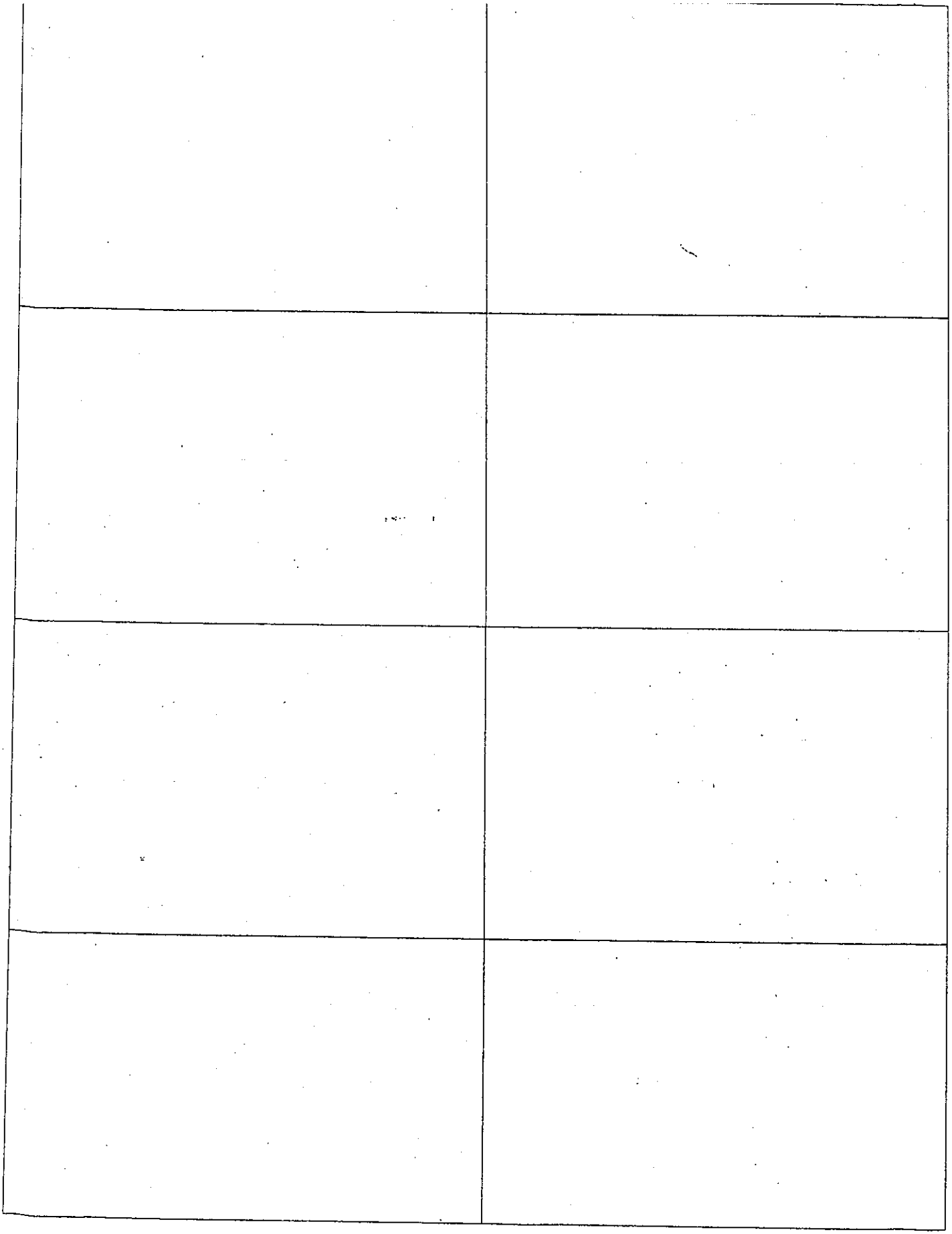

Did You Hear About...

A	B	C	D	E	F
G	H	I	J	K	L
					?

Solve each system of equations below using multiplication with the addition method. Find the solution in the answer column and notice the word next to it. Write this word in the box containing the letter of that exercise. Keep working and you will hear about some "udder" nonsense.

(A) $5x - 2y = 4$
$3x + y = 9$

(B) $3x - 5y = 13$
$x - 2y = 5$

(C) $7x + 2y = -1$
$3x - 4y = 19$

(D) $x + 2y = 6$
$5x + 3y = 2$

(E) $2x + 3y = 7$
$3x + 4y = 10$

(F) $7x - 3y = -5$
$3x + 2y = 11$

(G) $3x - 5y = 7$
$5x - 2y = -1$

(H) $4x + 3y = 9$
$3x + 4y = 12$

(I) $5x - 3y = 16$
$4x + 5y = -2$

(J) $4x - 3y = -20$
$-x - 8y = 5$

(K) $-3x + 7y = -1$
$-2x + 5y = 0$

(L) $5x + 6y = -11$
$3x + y = -4$

TWEET	(1, 2)
HIS	(2, 1)
SELLING	(−5, 0)
BIRDSEED	(−1, −2)
UDDER	(2, 0)
THE	(2, 3)
SINGING	(−5, 4)
STARTED	(2, −2)
FED	(−2, 4)
BUTTER	(−1, 3)
COWS	(1, 4)
MILK	(−1, −1)
FARMER	(1, −2)
AND	(0, 3)
WINGS	(2, −4)
WHO	(1, −4)
MOO	(1, 3)
CHEEP	(5, 2)
BEEF	(3, −2)

Elimination Double Trio

OBJECTIVE 6–f: To solve systems of equations using multiplication with the addition method (equations are in standard form).

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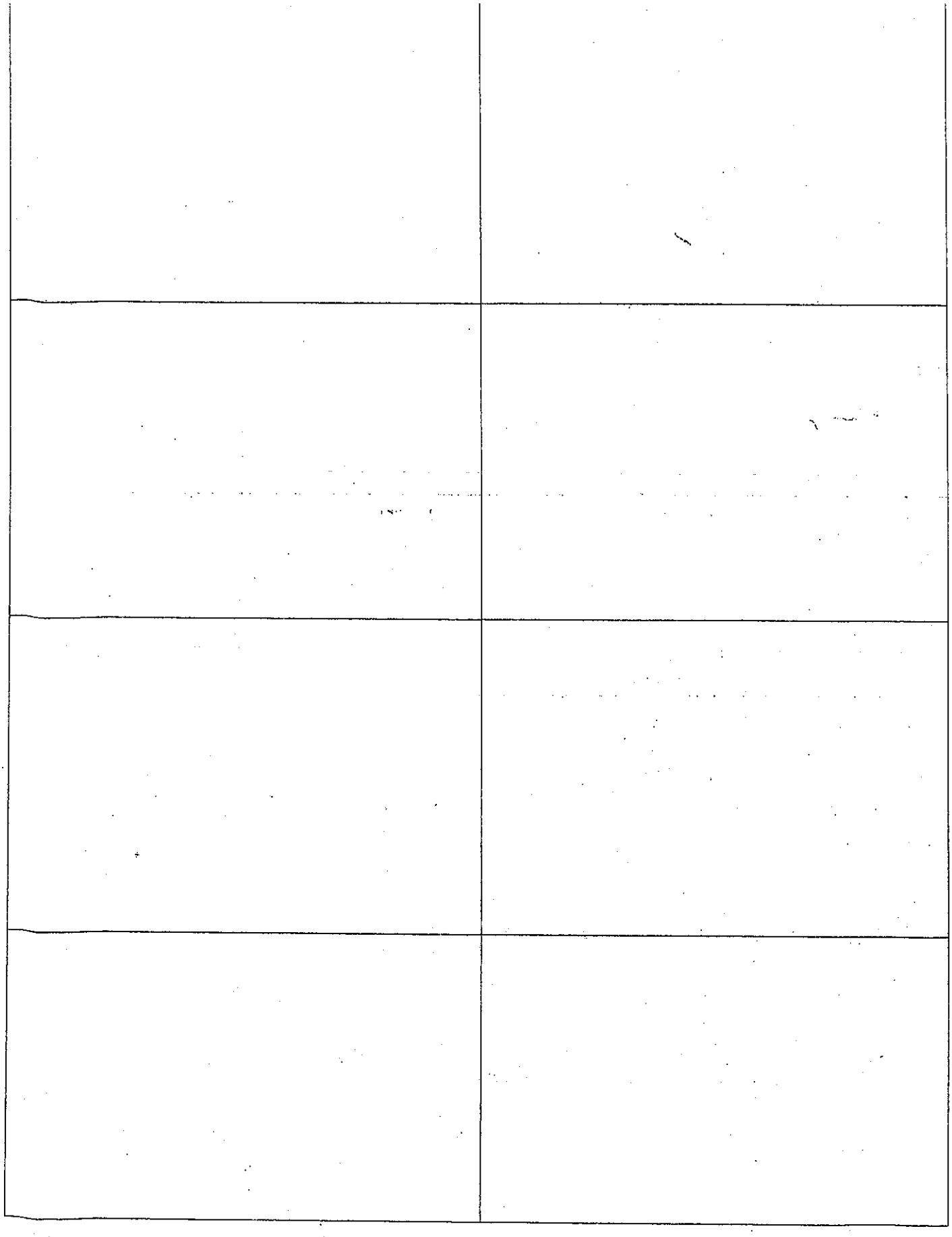


8.EE.C.8.C **Expressions & Equations**

Solve real-world and mathematical problems leading to two linear equations in two variables.

I can _____.

Give an example when we use a system of linear equations in real life.

Real-World Systems of Equations

Katie and Jenny took their family to the zoo. Katie bought 2 adult tickets and 2 children tickets for $12.00. Jenny bought 3 adult tickets and 4 children tickets for $20.00. Determine how much it cost for each adult ticket and child ticket.

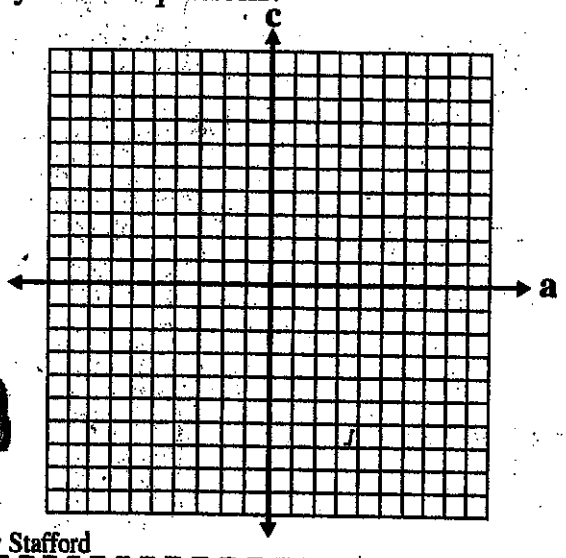
- Create a system of equations:

- Solve the system of equations algebraically by using either substitution or elimination:

How much does it cost for an adult ticket?

How much does it cost for a child ticket?

Graph the system of equations:



At what point do the two lines intersect?

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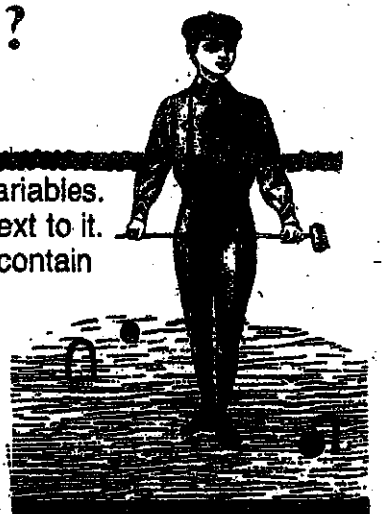
Why Are There Rules in Croquet ?



Solve each problem below using a system of two equations in two variables. Find the solution in the answer column and notice the three letters next to it. Write these letters in the three boxes at the bottom of the page that contain the number of that exercise.

(1) The sum of two numbers is 90. Their difference is 18. Find the numbers.

(2) The second of two numbers is 4 more than the first. The sum of the numbers is 56. Find the numbers.

(3) The number of girls at Sky High School is 60 greater than the number of boys. If there are 1250 students all together, how many girls are there?

(4) The second of two numbers is 5 more than twice the first. The sum of the numbers is 44. Find the numbers.

(5) The sum of two numbers is 75. The second number is 3 less than twice the first. Find the numbers.

(6) The larger of two numbers is 8 more than four times the smaller. If the larger is increased by four times the smaller, the result is 40. Find the numbers.

(7) The number of calories in a piece of pie is 20 less than three times the number of calories in a scoop of ice cream. The pie and ice cream together have 500 calories. How many calories are in each?

(8) The sum of two numbers is 4 less than twice the larger. If the larger is decreased by three times the smaller, the result is −20. Find the numbers.

660	THE
655	WEC
38, 52	BEC
16, 12	DER
24, 4	LAW
36, 54	SOT
635	ITW
16, 28	ROQ
13, 31	ANH
24, 32	HER
370, 130	NOR
26, 30	HAT
36, 39	ITB
350, 150	YER
26, 49	AVE

1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8	8	8

Why Are There Rules in Croquet?

Show your work!

Name: _____

1

2

3

4

5

6

7

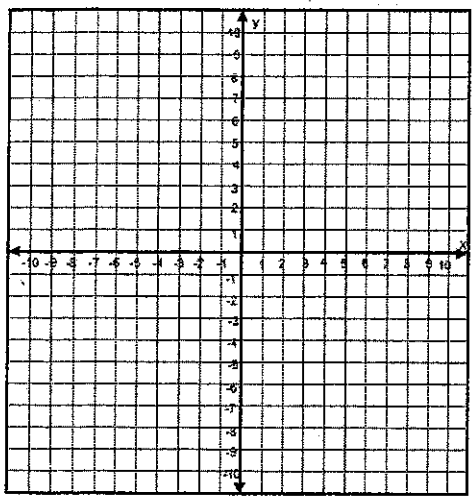
8

Name:_____ Date:_____ Period:_____

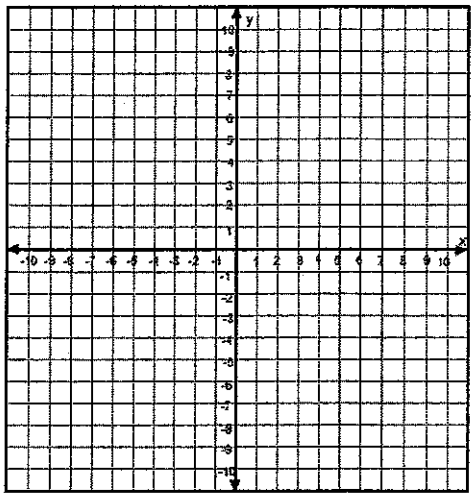
Unit 7 Study Guide: Systems of Equations

Solve the following systems by GRAPHING method:

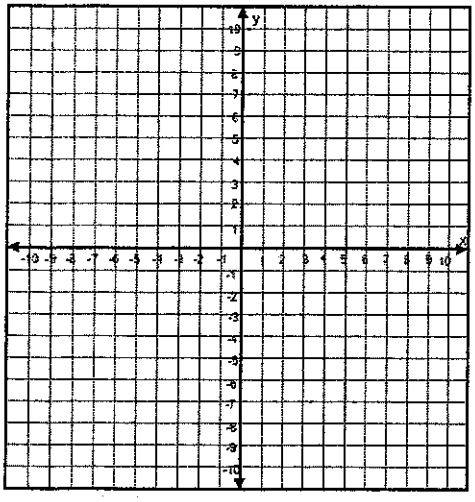
1. $3x + y = 5$ and $y - x = 1$



2. $3x + y = 3$ and $6x + 2y = 6$



3. $y = 2x - 4$ and $y = 2x + 1$



Solve the following systems using substitution method.

4. $y = 6x - 11$ and $-2x - 3y = -7$

5. $y = x + 1$ and $y = 2x - 1$

6. $-5x + y = -2$ and $-6x + 3y = 12$

Solve the following systems using elimination method.

7. $4x + 3y = 5$
   $2x - 3y = 7$

8. $2x + y = 9$
   $-x + 4y = 0$

9. $6x - 3y = -3$
   $-12x + 3y = -3$

10. $3x - 3y = -15$
    $-4x + 2y = 4$

Solve the following word problems using system of equations:

11. For a community bake sale, you purchases 12 pounds of sugar and 15 pounds of flour. Your total cost was $9.30. The next day, you purchased 4 pounds of sugar and 10 pounds of flour. Your total cost the second day was $4.60. Find the cost of a pound of sugar and a pound of flour.

Define Variables: **Write the System:** **Solve:** **Answer:**

12. A travel agency offers different getaways to New York. Plan A includes hotel accommodations for 3-nights and 2-pair of baseball tickets for $645. Plan B includes hotel accommodations for 5-nights and 4-pairs of baseball tickets for $1135. How much does a single hotel cost and how much does a single pair of baseball tickets cost?

Define Variables: **Write the System:** **Solve:** **Answer:**

13. Tickets for the theater are $5 for the balcony and $10 for the orchestra. If 600 tickets were sold and the total receipts were $4750, how many tickets of each type were sold?

Define Variables: **Write the System:** **Solve:** **Answer:**

14. Is (3, 2) the solution to this system of equations?

$$2x - 3y = 0$$
$$2x + y = 8$$

15. You are walking along the path $y = 6x + 8$. Your friend Rick is walking along $y - 12 = 8x$. At what point do your paths cross?

CONCEPTS REVIEW:

Draw and label the three types of solutions:

_____ _____ _____

List the steps for solving a system of <u>equations</u> by GRAPHING

List the steps for solving a system of <u>equations</u> by SUBSTITUTION

List the steps for solving a system of <u>equations</u> by ELIMINATION

Convert between forms.

Convert to Standard form.

1) $y = -2x + 5$

2) $y = \frac{1}{2}x - 3$

Convert to slope intercept form.

3) $12x + 3y = 15$

4) $3x - 12y = 24$