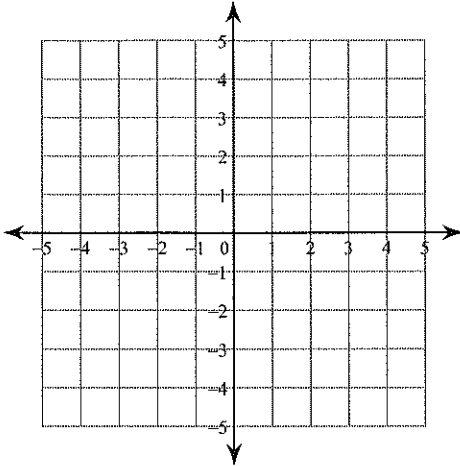


P15

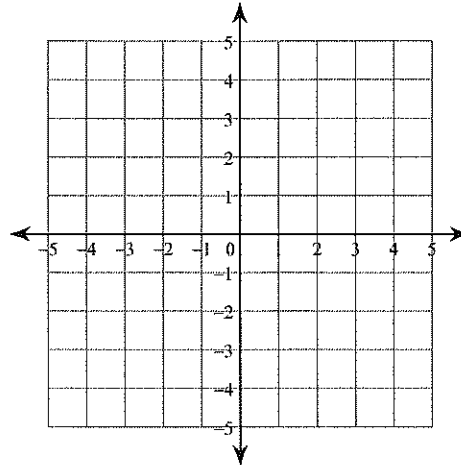
Solve each system by graphing.

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

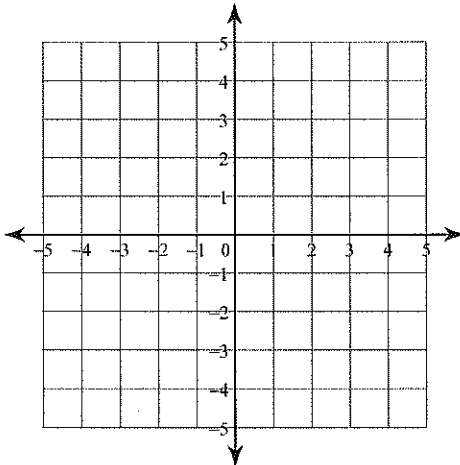
$y = \frac{1}{2}x - 1$



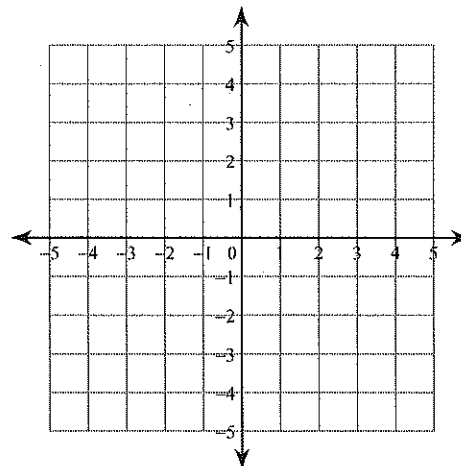
2) $y = 2x + 4$
 $y = -6x - 4$



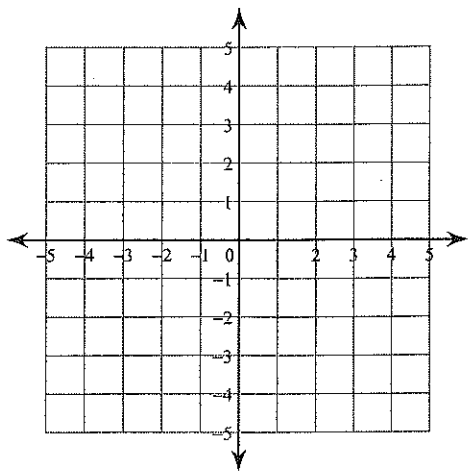
3) $y = 2x + 3$
 $y = -4x - 3$



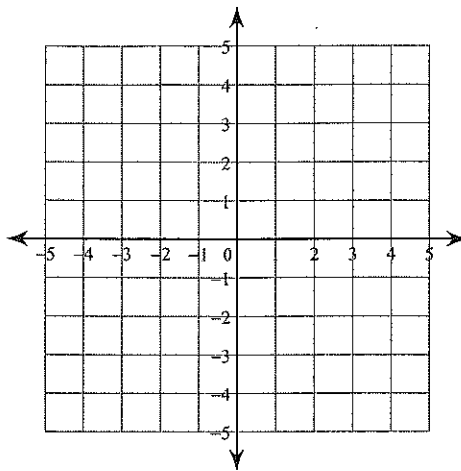
4) $y = \frac{1}{3}x + 4$
 $y = \frac{1}{3}x - 1$



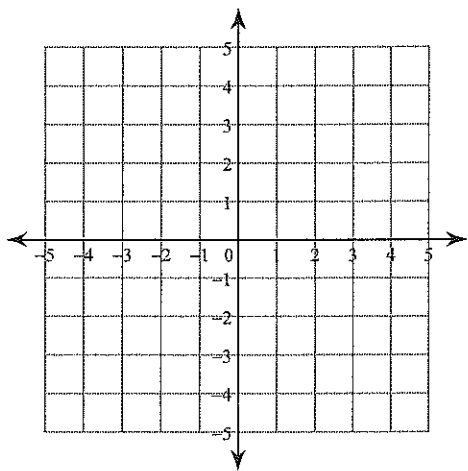
$$\begin{aligned} 5) \quad & 5x + 2y = 4 \\ & x - 2y = 8 \end{aligned}$$



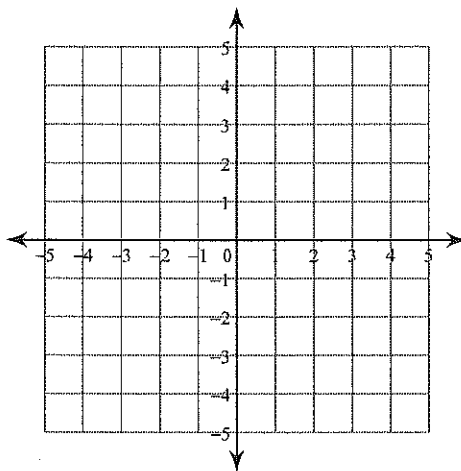
$$\begin{aligned} 6) \quad & x + y = -3 \\ & x - y = 1 \end{aligned}$$



$$\begin{aligned} 7) \quad & x - 4y = -16 \\ & 3x + 2y = -6 \end{aligned}$$



$$\begin{aligned} 8) \quad & 2x - y = -3 \\ & 2x - y = 2 \end{aligned}$$



Answers to P15

$$\begin{aligned} 1) \quad & (-4, -3) \\ 5) \quad & (2, -3) \end{aligned}$$

$$\begin{aligned} 2) \quad & (-1, 2) \\ 6) \quad & (-1, -2) \end{aligned}$$

$$\begin{aligned} 3) \quad & (-1, 1) \\ 7) \quad & (-4, 3) \end{aligned}$$

4) No solution
8) No solution

ADVANCED ALGEBRA

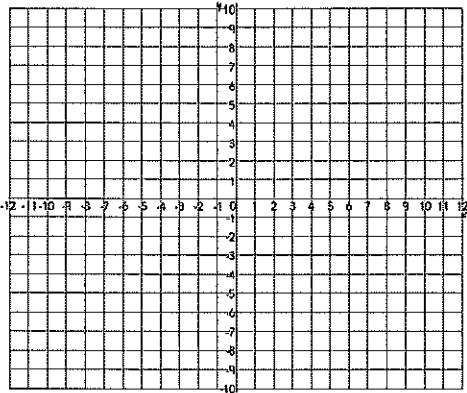
Solving Systems of Equations: Graphing Method

Name: _____

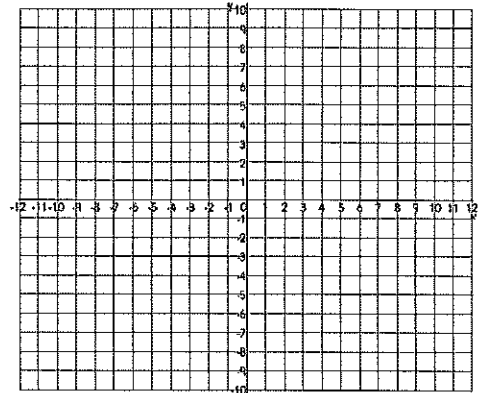
Period: _____ Date: _____

Directions: Solve each system of equations by graphing. Then check your solution(s) on the Nspire (Menu, Analyze Graph, and Intersection). Choose 8 out of 12 problems.

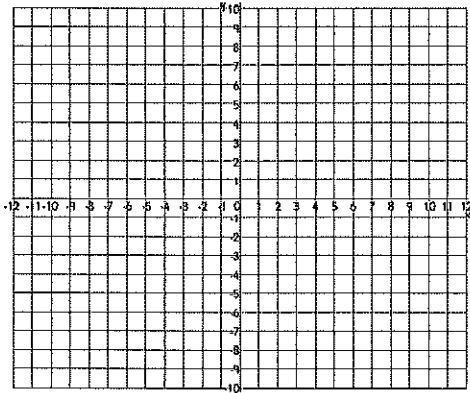
1. $y = \frac{1}{2}x$
 $y = 2x - 3$



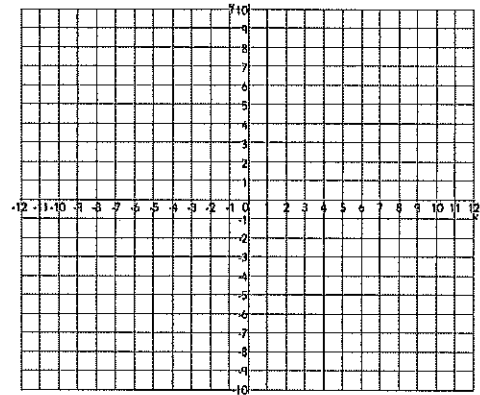
2. $y = -\frac{1}{2}x - 1$
 $y = 2x - 6$



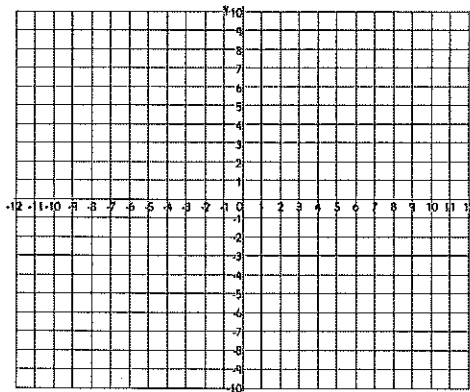
3. $y = x + 3$
 $y = 1$



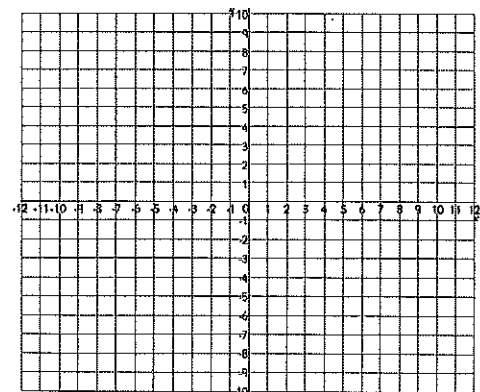
4. $y = -3x + 4$
 $y = -\frac{1}{2}x - 1$



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

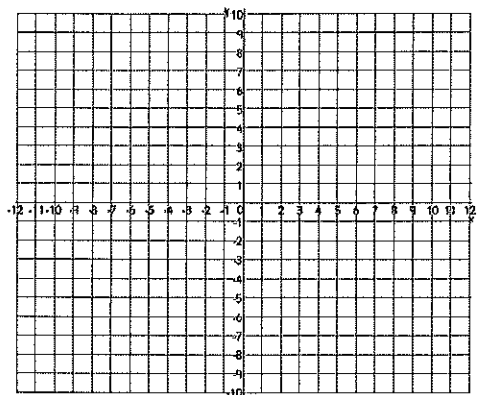


6. $y = -x - 2$
 $x + y = -4$



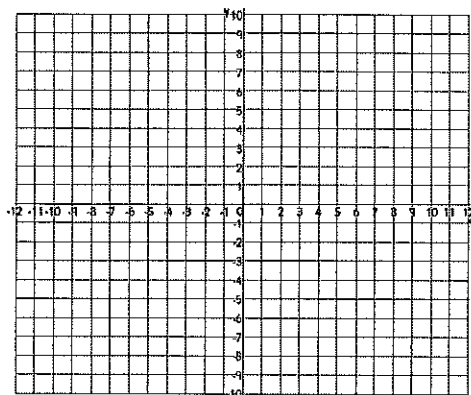
7. $x - y = 4$

$2y = -2x - 4$



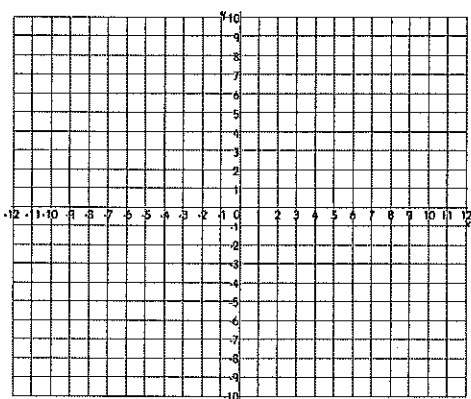
8. $y = -2x + 2$

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



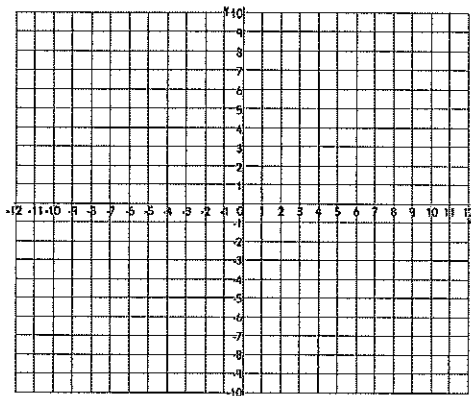
9. $y = -3x + 4$

$3x + y = -3$



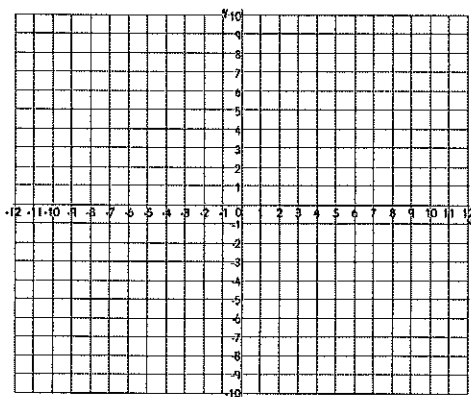
10. $2y - 8 = x$

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



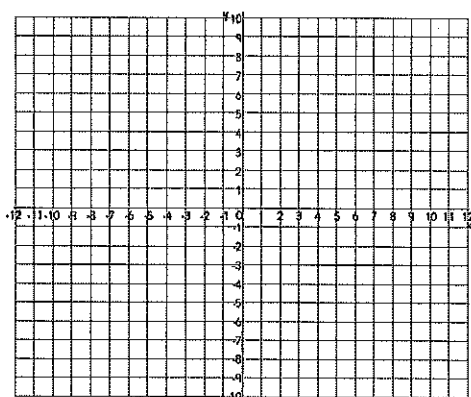
11. $x + 2y = 4$

$-3x + y = -5$



12. $2x - 5y = 10$

$x + 5y = 5$



P16

Solve each system by substitution.

$$\begin{aligned} 1) \quad & -7x + 6y = 12 \\ & y = x + 1 \end{aligned}$$

$$\begin{aligned} 2) \quad & y = -4x + 5 \\ & -3x + 8y = 5 \end{aligned}$$

$$\begin{aligned} 3) \quad & -8x + 7y = 11 \\ & y = x + 2 \end{aligned}$$

$$\begin{aligned} 4) \quad & 7x - 5y = 16 \\ & 6x + y = -18 \end{aligned}$$

$$\begin{aligned} 5) \quad & 6x - 5y = -4 \\ & -x + y = 2 \end{aligned}$$

$$\begin{aligned} 6) \quad & 5x - 6y = -16 \\ & x + 7y = 5 \end{aligned}$$

$$\begin{aligned} 7) \quad & -4x - 7y = 16 \\ & -8x - 3y = -12 \end{aligned}$$

$$\begin{aligned} 8) \quad & 5x - 3y = 17 \\ & -2x - 8y = -16 \end{aligned}$$

Answers to P16

1) $(-6, -5)$
5) $(6, 8)$

2) $(1, 1)$
6) $(-2, 1)$

3) $(3, 5)$
7) $(3, -4)$

4) $(-2, -6)$
8) $(4, 1)$

Solving Systems of Equations—You Choose

ADVANCED ALGEBRA

Name: _____

Period: _____ Date: _____

Target 3B. Solve a system of equations graphically and algebraically.

Target 3C. Understand the relationship between a system of equations and its number of solutions.

Solve each system of equations by **elimination or substitution**. Choose the most efficient method. Check your answer to each problem before moving on to the next problem.

1. $-4x + y = -9$
 $-x + y = -3$

2. $4x + 2y = 10$
 $x - y = 13$

3. $y = -5$
 $5x + 4y = -20$

4. $x + 7y = 0$
 $2x - 8y = 22$

5. $6x + 8y = -22$
 $y = -5$

6. $7x + 2y = -6$
 $-14x - 4y = -2$

$$\begin{aligned} 7. \quad & 2x + 2y = -6 \\ & 5x - 5y = -15 \end{aligned}$$

$$\begin{aligned} 8. \quad & -x + 2y = -7 \\ & -2x - 6y = -14 \end{aligned}$$

$$\begin{aligned} 9. \quad & -x - y = 8 \\ & x - 3y = 8 \end{aligned}$$

$$\begin{aligned} 10. \quad & -2x - 2y = 6 \\ & 10x + 10y = -30 \end{aligned}$$

$$\begin{aligned} 11. \quad & 4x + 5y = -9 \\ & 8x - y = -7 \end{aligned}$$

$$\begin{aligned} 12. \quad & -2x + 3y = 15 \\ & -6x + 6y = 18 \end{aligned}$$

P17

Solve each system by elimination.

$$\begin{aligned} 1) \quad & -8x - 5y = -1 \\ & 8x + 5y = -12 \end{aligned}$$

$$\begin{aligned} 2) \quad & 6a + 4b = 16 \\ & a - 4b = 26 \end{aligned}$$

$$\begin{aligned} 3) \quad & 2c + d = -3 \\ & -2c - 4d = 18 \end{aligned}$$

$$\begin{aligned} 4) \quad & -5x - 5y = 5 \\ & 5x + 5y = -5 \end{aligned}$$

$$\begin{aligned} 5) \quad & e - 2f = -22 \\ & -4e - 2f = 8 \end{aligned}$$

$$\begin{aligned} 6) \quad & 7x - 6y = -21 \\ & 7x + y = -21 \end{aligned}$$

$$\begin{aligned} 7) \quad & 9x - 10y = 20 \\ & -6x - 10y = 20 \end{aligned}$$

$$\begin{aligned} 8) \quad & -9m + 2n = 24 \\ & -9m + 2n = 20 \end{aligned}$$

$$\begin{aligned} 9) \quad & 6x + 2y = -2 \\ & -12x - 7y = 16 \end{aligned}$$

$$\begin{aligned} 10) \quad & 8x - y = -18 \\ & -2x - 3y = 24 \end{aligned}$$

$$\begin{aligned} 11) \quad & 15q - 15r = 30 \\ & -5q + 5r = -10 \end{aligned}$$

$$\begin{aligned} 12) \quad & 10x + 4y = -4 \\ & -2x + 2y = 26 \end{aligned}$$

$$\begin{aligned} 13) \quad & 5x + 10y = 5 \\ & -8x - 9y = 6 \end{aligned}$$

$$\begin{aligned} 14) \quad & 8s + 10t = 24 \\ & 6s + 4t = 4 \end{aligned}$$

$$\begin{aligned} 15) \quad & 5x - 3y = 1 \\ & -9x + 10y = -11 \end{aligned}$$

$$\begin{aligned} 16) \quad & 5x + 2y = 7 \\ & 4x - 7y = -3 \end{aligned}$$

Answers to P17

- | | | | |
|----------------------------------|----------------|---------------|----------------|
| 1) No solution | 2) $(6, -5)$ | 3) $(1, -5)$ | |
| 4) Infinite number of solutions | 5) $(-6, 8)$ | 6) $(-3, 0)$ | |
| 7) $(0, -2)$ | 8) No solution | 9) $(1, -4)$ | 10) $(-3, -6)$ |
| 11) Infinite number of solutions | 12) $(-4, 9)$ | 13) $(-3, 2)$ | |
| 14) $(-2, 4)$ | 15) $(-1, -2)$ | 16) $(1, 1)$ | |

P19-Story Problems

DATE: _____

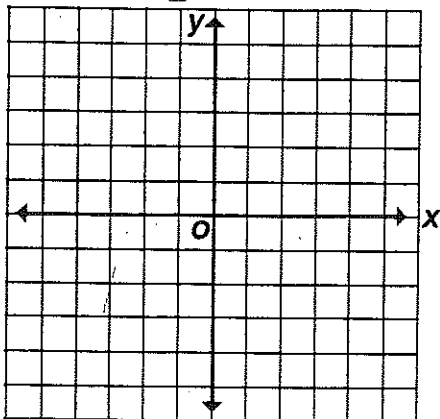
Target 3A. Translate a verbal model into an algebraic model.

1. Foot Locker at the North Riverside Mall sold 28 pairs of basketball shoes to the Morton varsity and sophomore basketball teams for a total of \$2220. The Nike Zoom LeBron VI sold for \$70 per pair and the Air Jordan Hall of Fame 2009 pair sold for \$90 per pair (What a deal!!!) How many of each style were sold?
2. You just got a brand new iPhone. You immediately download a total of 9 songs and videos from iTunes. Music songs cost \$0.99 per download and videos cost \$1.99 for each download. Your total bill from iTunes is \$10.91. How many songs and videos did you download?
3. Fred and Dilbert start with \$25,000. Dilbert takes part of the money and invests in stocks while Fred invests the rest of the money in real estate. After some time, Dilbert doubles his money and Fred triples his money. Now together they have \$55,000. How much did each start with?

Why Did the Three Pigs Leave Home?

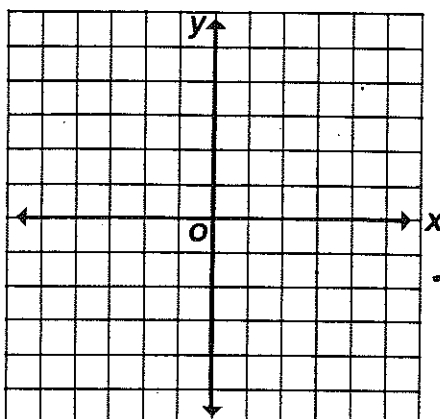
Graph each inequality below. Circle the letter of the statement that correctly describes the location of the graph. Print this letter in each box at the bottom of page 31 that contains the number of the exercise.

① $y \geq \frac{1}{2}x - 3$



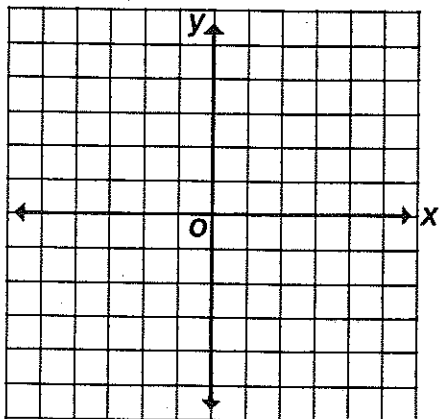
- D Quadrants I, II, IV; includes boundary line.
- E All four quadrants; includes boundary line.
- I Quadrants I, III, IV; excludes boundary line.

② $x + y > 1$



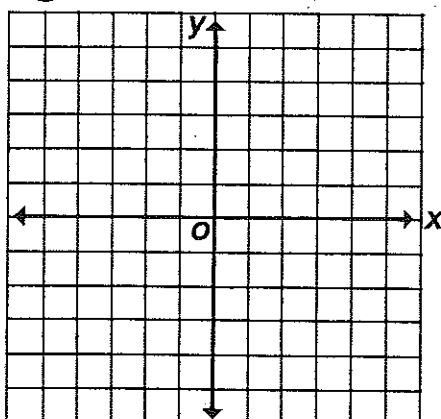
- S Quadrants I, II, IV; excludes boundary line.
- B All four quadrants; includes boundary line.
- F Quadrants I, III, IV; excludes boundary line.

③ $y \leq 2x - 2$



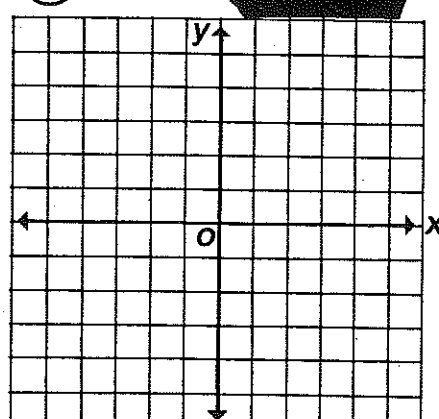
- L Quadrants I, II, IV; includes boundary line.
- T Quadrants I, III, IV; includes boundary line.
- All four quadrants; excludes boundary line.

④ $3x + 2y < 6$



- C Quadrants II, III, IV; excludes boundary line.
- M Quadrants I, II, IV; includes boundary line.
- O All four quadrants; excludes boundary line.

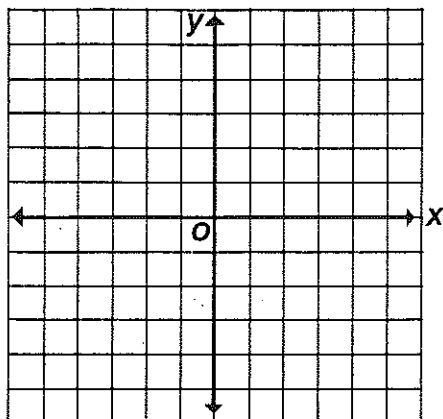
⑤ $y \geq 2$



- R All four quadrants; excludes boundary line.
- U Quadrants II, III; includes boundary line.
- H Quadrants I, II; includes boundary line.

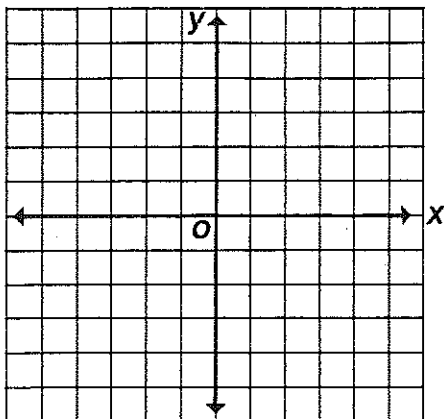


6 $x < -3$



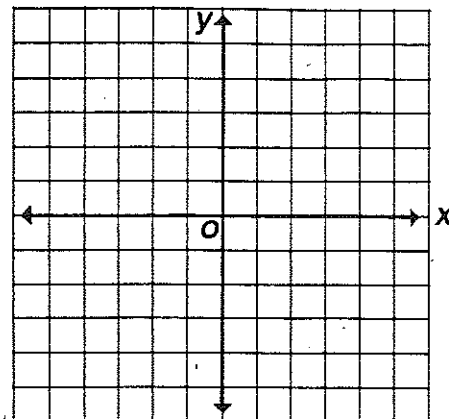
- L Quadrants I, II; excludes boundary line.
- W Quadrants II, III; excludes boundary line.
- G Quadrants I, III; excludes boundary line.

7 $2x - 3y \leq 12$



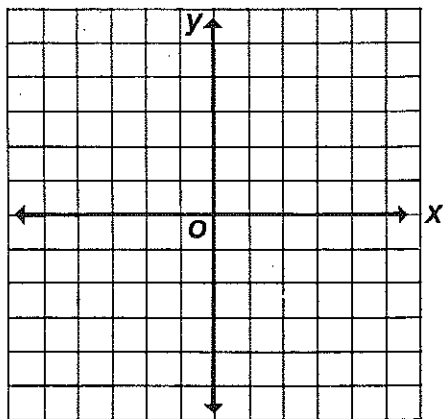
- K Quadrants I, III, IV; excludes boundary line.
- U Quadrants II, III, IV; includes boundary line.
- I All four quadrants; includes boundary line.

8 $5x + 3y < x + 6$



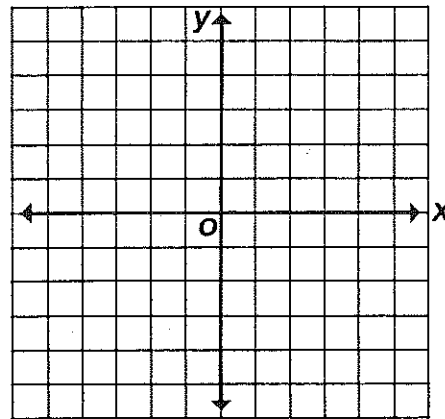
- F All four quadrants; excludes boundary line.
- P Quadrants I, II, III; excludes boundary line.
- M Quadrants I, III, IV; excludes boundary line.

9 $3x + y > 0$



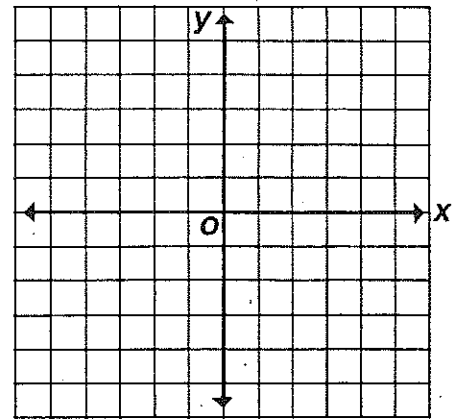
- R Quadrants I, II, IV; excludes boundary line.
- L All four quadrants; includes boundary line.
- M Quadrants I, III, IV; excludes boundary line.

10 $2(x - y) \geq 5$



- Y All four quadrants; excludes boundary line.
- U Quadrants II, III, IV; includes boundary line.
- A Quadrants I, III, IV; includes boundary line.

11 $5y - 2 \geq 3x - 7$



- N Quadrants I, III, IV; excludes boundary line.
- B All four quadrants; includes boundary line.
- D Quadrants I, II, IV; includes boundary line.

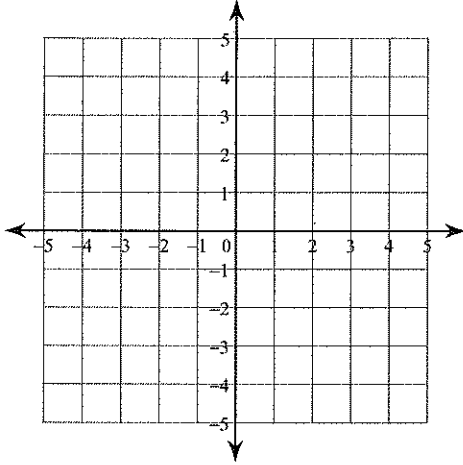
3	5	1	7	9	8	10	3	5	1	9	6	10	2	10	11	4	10	9
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P22

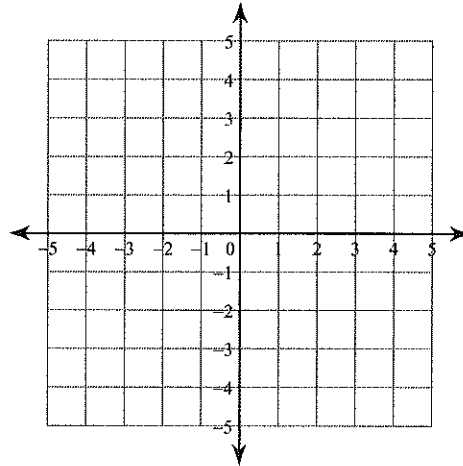
Date _____ Period _____

Sketch the solution to each system of inequalities.

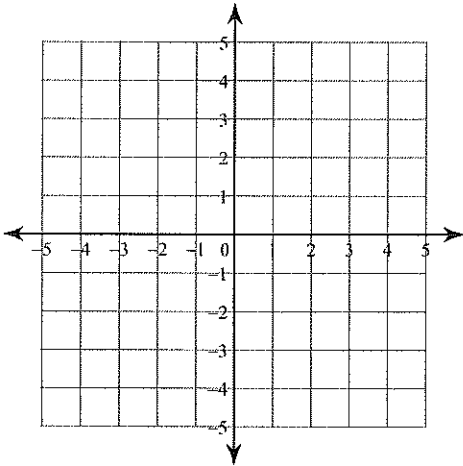
$$1) \begin{cases} y \leq -2x - 1 \\ y > 3 \end{cases}$$



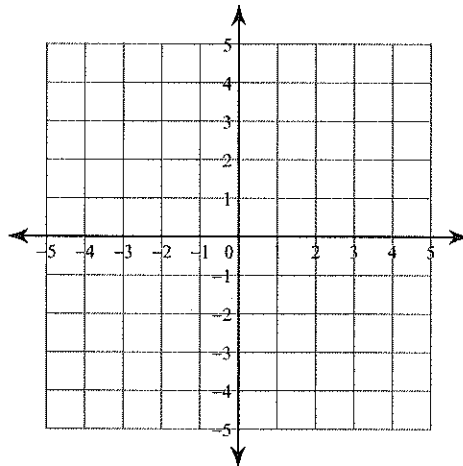
$$2) \begin{cases} x \leq 3 \\ y > -\frac{1}{3}x - 2 \end{cases}$$



$$3) \begin{cases} 2x + y < -2 \\ x - 2y < -6 \end{cases}$$

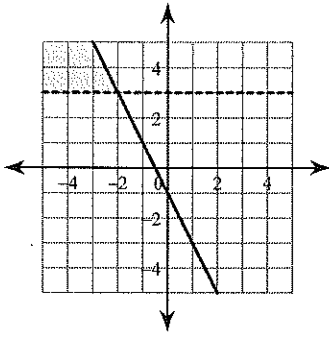


$$4) \begin{cases} 4x - 3y \geq 6 \\ x + 3y \leq 9 \end{cases}$$

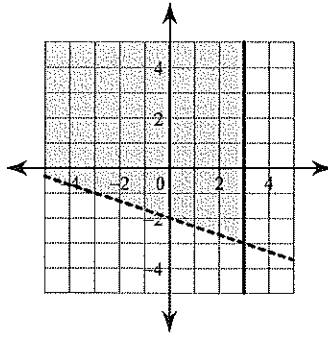


Answers to P22

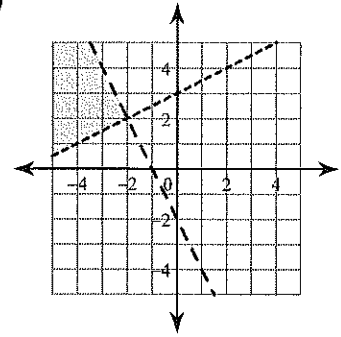
1)



2)



3)



4)

