

Unit 2B Systems of Equations

Test Review

Each problem should be completed.

If you do not finish in class, then you will need to finish those problems for homework.

Answer Keys are posted on the board and they will also be on the blog.

Study Session Tomorrow at 8 AM. Feel free to message for help on remind.

Grand Piano Riddle – “Beefy” Challenging Problems (23)

Examples:

(4,0) (T) $2(x - 3y) = x + 4$ ①
 $3x + 8 = 5x - y$ ②

Solve

① $2x - 6y = x + 4$ Distribute
 $-x$ $-x$
 $x - 6y = 4$ Move X

① $x - 6y = 4$] -2
 ② $2x - y = 8$
 $-2x + 12y = -8$
 $2x - y = 8$

 $11y = 0$
 $y = 0$

② $3x + 8 = 5x - y$ Move X
 $-3x$ $-3x$
 $8 = 2x - y$
 $2x - y = 8$ Symmetric

(3,8) (L) ① $\frac{a}{6} + \frac{b}{4} = \frac{5}{2}$ ← What is the GCF among the denominators?
 ② $\frac{2a}{3} - \frac{b}{2} = -2$ ← That is what you'll multiply by!

Solve

$2a + 3b = 30$
 $4a - 3b = -12$

① $\frac{a}{6} + \frac{b}{4} = \frac{5}{2}$] 12

② $\frac{2a}{3} - \frac{b}{2} = -2$] 6

$6a = 18$
 $a = 3$

$\frac{12a}{6} + \frac{12b}{4} = \frac{60}{2}$

$\frac{12a}{3} - \frac{6b}{2} = -12$

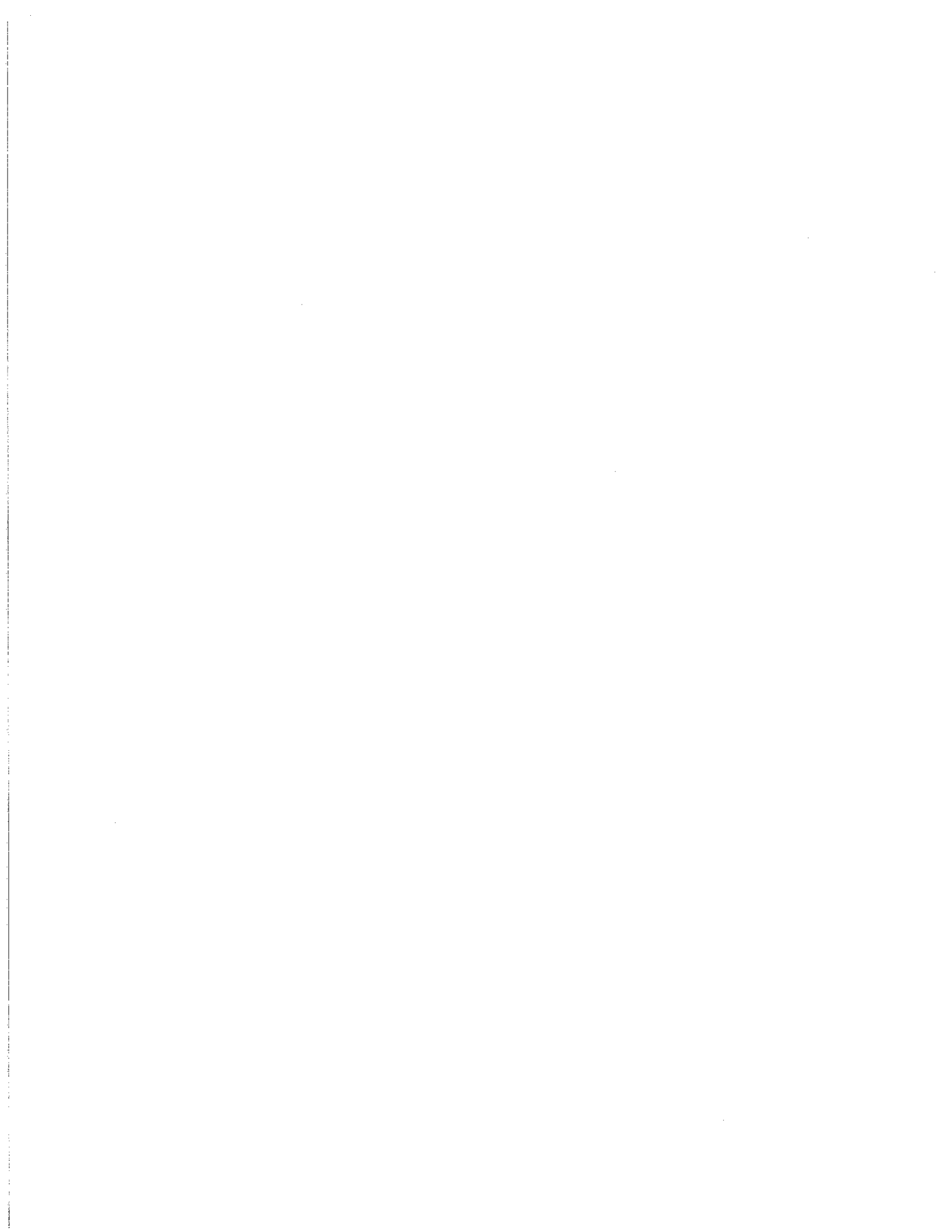
$\frac{8}{6} + \frac{b}{4} = \frac{5}{2}$

$2a + 3b = 30$ ✓

$4a - 3b = -12$ ✓

$\frac{b}{4} = \frac{4}{6}$

$\frac{b}{4} = 2$ $b = 8$



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

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

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

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

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

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

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

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

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

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

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

(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) |

What Do You Get If You Drop a Grand Piano Down a Mine Shaft?

Solve each system of equations below using multiplication with the addition method. Find the solution at the bottom of the page and write the letter of that exercise in the box above it.

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

(I) $a - 2b = -5$
 $3(2a + b) = 0$

(R) $5x - y = 2x + 9$
 $3x + 4y = -6$

(T) $2(x - 3y) = x + 4$
 $3x + 8 = 5x - y$

(A) $\frac{1}{3}(2x + y) = 1$
 $x + y = 4$

(O) $\frac{1}{2}(m - 3n) = 5$
 $3(m + 4n) = -12$

(F) $\frac{x}{3} + \frac{y}{2} = -4$
 $x - 3y = 6$

(M) $\frac{x}{2} + \frac{y}{5} = \frac{13}{10}$

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

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

$\frac{x}{4} - \frac{3y}{2} = \frac{15}{2}$

(L) $\frac{a}{6} + \frac{b}{4} = \frac{5}{2}$

$\frac{2a}{3} - \frac{b}{2} = -2$

| | | | | | | | | | | | | | | | | | | | |
|---------|---------|----------|--------|---------|--------|---------|---------|---------|---------|--------|--------|---------|---------|---------|---------|--|--|--|--|
| | | | | | | | | | | | | | | | | | | | |
| (4, -3) | (3, -4) | (-6, -4) | (3, 1) | (2, -5) | (1, 4) | (0, -5) | (2, -3) | (-1, 5) | (-1, 1) | (3, 8) | (4, 0) | (1, -2) | (-1, 2) | (4, -2) | (-6, 0) | | | | |

Name: _____

Unit 8: Systems of Equations & Inequalities

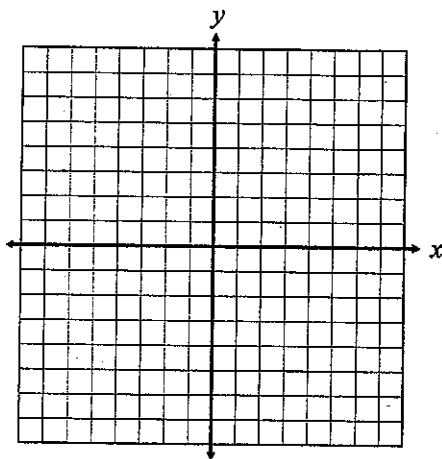
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Homework 11: Unit 8 Review

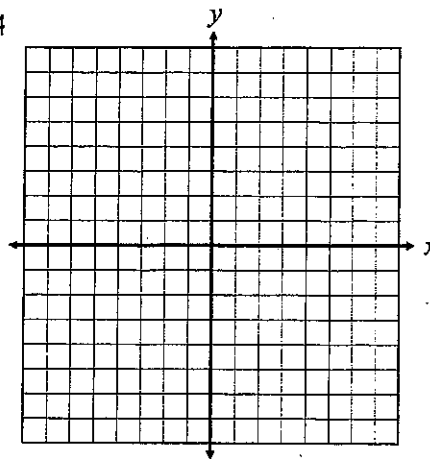
**** This is a 2-page document! ****

Solve each system of equations by graphing. Clearly give your solution.

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



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



Solve each system of equations by substitution. Clearly give your solution.

3. $2x + 5y = -7$
 $7x + y = -8$

4. $x - 3y = -24$
 $5x + 8y = -5$

Solve each system of equations by elimination. Clearly give your solution.

5. $x + 2y = 3$
 $5x + 3y = 8$

6. $2x = 8y - 2$ $2x - 8y = -2$
 $3x - 3y = 15$ $3x - 3y = 15$

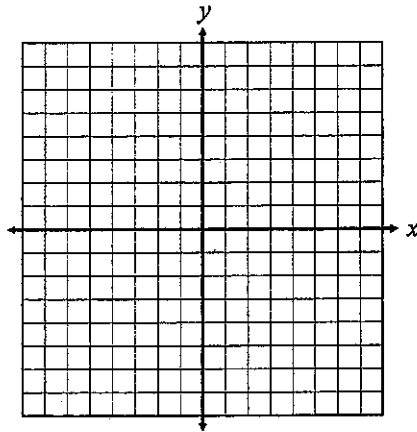
7. Karen and Holly took their families out to the movie theater. Karen bought three boxes of candy and two small bags of popcorn and paid \$18.35. Holly bought four boxes of candy and three small bags of popcorn and paid \$26.05. Find the cost for a box of candy.

8.

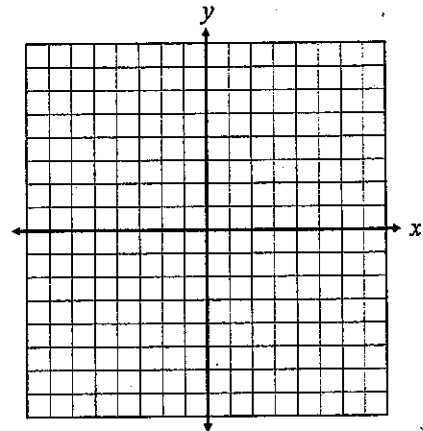
RJ and Sam are each saving for a new iPhone. So far, RJ has \$9 saved, and earns \$6 an hour babysitting. Sam has \$3 saved and earns \$9 an hour mowing lawns. After how many hours will they have saved the **same** amount? What will that amount be?

Graph the following linear inequalities.

9. $2x - 4y < 8$

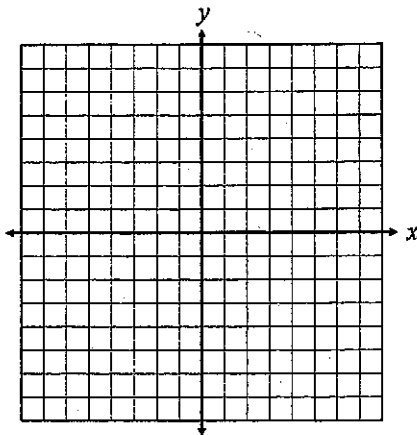


10. $y \geq -3$

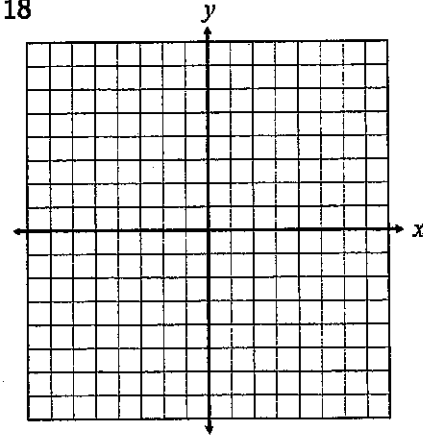


Graph the following systems of linear inequalities.

11. $y < 2x - 3$
 $y > -x + 1$



12. $x - y \geq 0$
 $4x + 3y < 18$

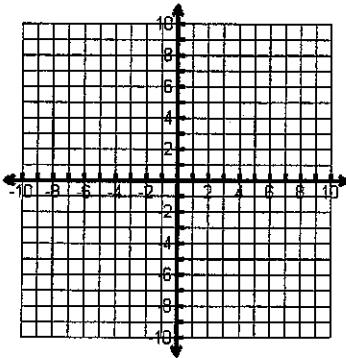


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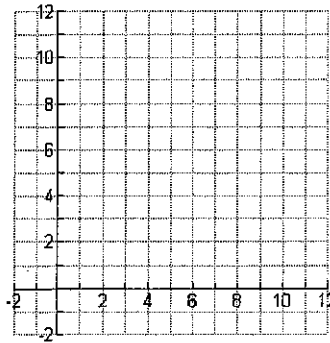
Unit 2B Test Review

Find the solution of the linear system graphically. Write your solution in the blank provided.

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



_____ 2. $y = -2x + 7$
 $-3x + 6y = 12$



Use substitution to solve the linear system. **SHOW ALL WORK** and write your solution in the space provided.

_____ 3. $y = 2x - 2$
 $6x + 2y = 16$

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

Use elimination to solve the linear system. **SHOW ALL WORK** and write your solution in the space provided.

_____ 5. $5x - 3y = 7$
 $x + 3y = 5$

_____ 6. $-3x + 3y = -9$
 $6x + 2y = 2$

Systems of Linear Equations Word Problems:

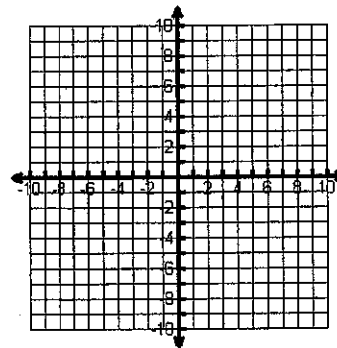
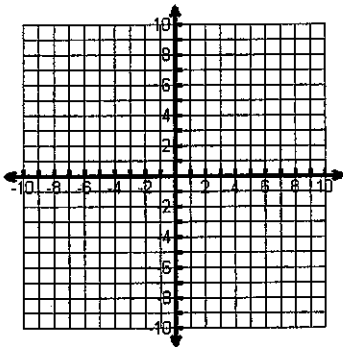
7. A store sold 32 pairs of jeans for a total of \$1050. Brand A sold for \$30 per pair and Brand B sold for \$35 per pair. How many of Brand A were sold?

8. You are selling tickets for a basketball game. Student tickets cost \$3 and general admission tickets cost \$5. You sell 350 tickets and collect \$1450. How many of each type of ticket did you sell?

Graph the systems of inequalities, and name a solution.

9. $x - 3y \leq -9$
 $4x + 3y > -6$

10. $y > -x + 2$
 $4x + y < -1$



11. What quadrant is the graph of the system: $x < -1$ and $y > 4$ predominantly in?

