

Name_____

Date_____

Unit 3 Review HW#_____

1. Solve the following system algebraically and check.

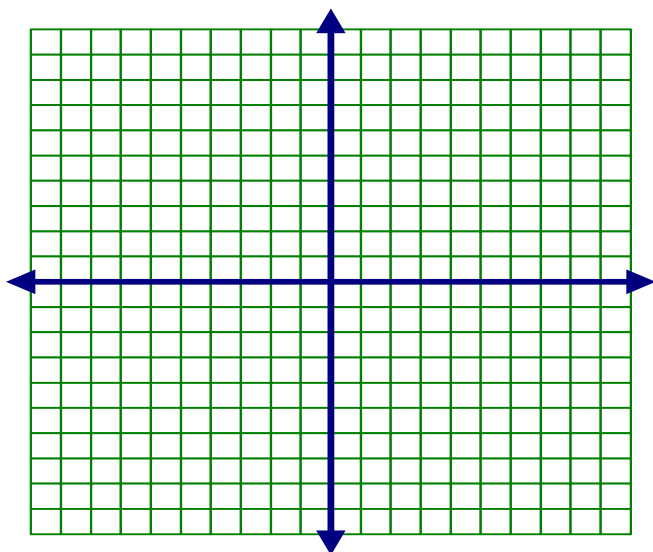
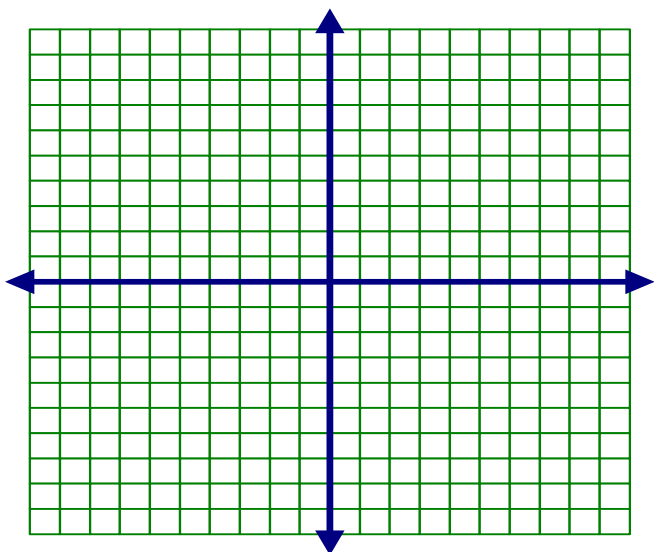
$$y = 3x + 8$$

$$4x + 2y = 6$$

Solve the following systems of inequalities graphically and check.

2. $y < 1$ and $y \leq 2x - 3$

3. $2x - 3y \leq 12$ and $x + 5y < 20$



Directions Solve the following word problems algebraically. Be sure to include a legend, equations, and solution.

4. According to a recent report, John Paul Ofwono of Uganda is so tall he can pick mangoes without climbing a tree. John's height plus his father's height is 163 inches, while the difference in their heights is 33 inches. Assuming John is taller than his father, how tall is each man?
5. I have 30 coins of dimes and quarters that have a total value of \$4.95. How many dimes and how many quarters do I have?
6. At a local video rental store, Joe rents two movies and three games for a total of \$15.50. At the same time, Meg rents three movies and one game for a total of \$12.05. How much money is needed to rent three games and one movie?

7. Currently, Tyrone has \$60 and his sister has \$135. Both get an allowance of \$5 each week. Tyrone decides to save his entire allowance, but his sister spends all of hers each week.

(a) Write one equation representing the spending of Tyrone.

(b) Write one equation representing the spending of his sister.

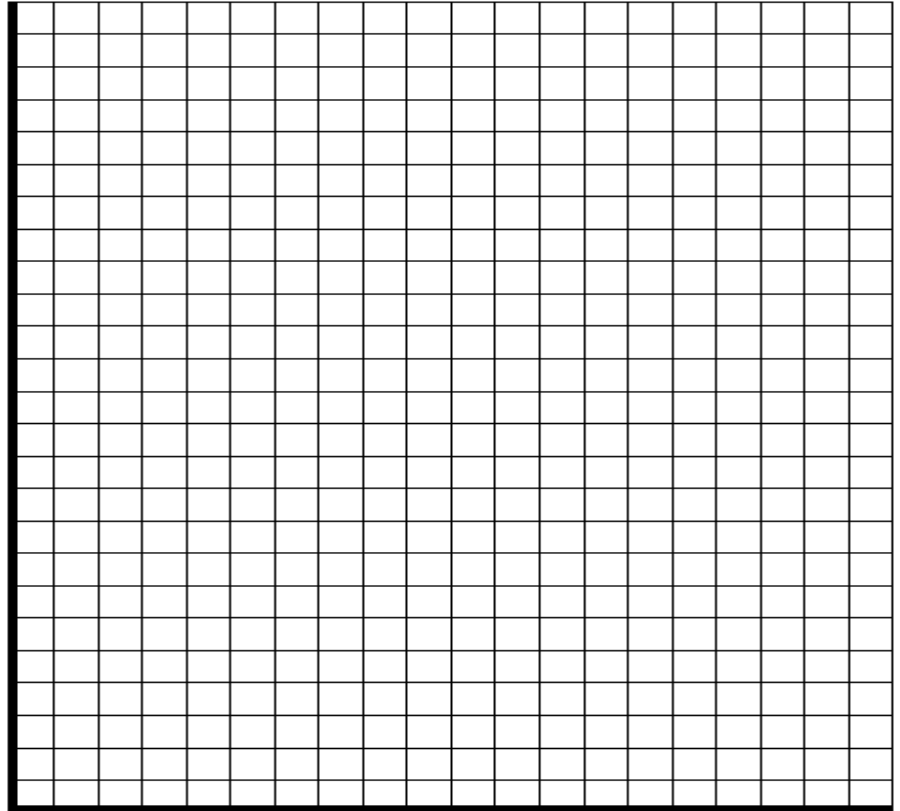
8. The senior class is sponsoring a dance. The cost of a student disk jockey is \$40 and tickets sell for \$2 each.

(a) Write a linear equation that represents the cost of a student disk jockey.

(b) Write a linear equation that represents the number of tickets sold.

(c) Graph both equations. Find the point of intersection and explain its meaning.

(d) Solve algebraically to find the number of tickets the senior class has to sell to break even.



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(e) A student claimed she sold \$33 worth of tickets and her classmate exclaimed, “That’s not possible!” Explain why.

9. Which orders pair is *not* a solution of $4y < 3x + 5$?

- a. $(-3, -2)$
- b. $(0, 1)$
- c. $(\frac{1}{3}, \frac{3}{2})$
- d. $(1, 1)$

10. Write an inequality for the following sentences.

- a) Two less than five times a number is at least twelve. _____
- b) Four times a number is less than negative eight. _____
- c) The difference of 2 numbers is at most 40 _____

11. Using the substitution method, Ken solves the following system of equations algebraically.

$$2x - y = 5$$

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

Which equivalent equation could Ken use?

- a. $3x + 2(2x - 5) = -3$
- b. $3x + 2(5 - 2x) = -3$
- c. $3\left(y + \frac{5}{2}\right) + 2y = -3$
- d. $3\left(\frac{5}{2} - y\right) + 2y = -3$

**REMEMEBER TO CHECK YOUR ANSWERS WITH THE ANSWER KEY
AND MAKE CORRECTIONS IN A DIFFERENT COLOR!!!**