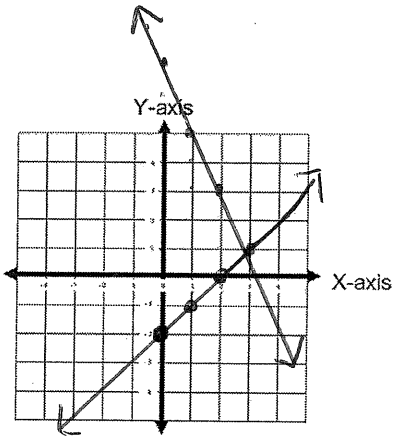
Name: Key

Review for sections 3.1-3.3 Algebra II CP

Solve each system by graphing.

1. $\begin{cases} y = x - 2 \\ y = -2x + 7 \end{cases}$

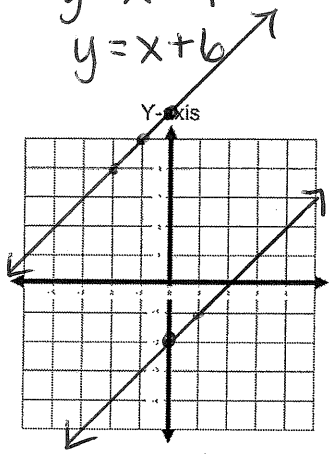


sol: (3,1)

2. $\begin{cases} 2x - 2y = 4 \\ y - x = 6 \end{cases}$

$y = x - 2$

$y = x + 6$



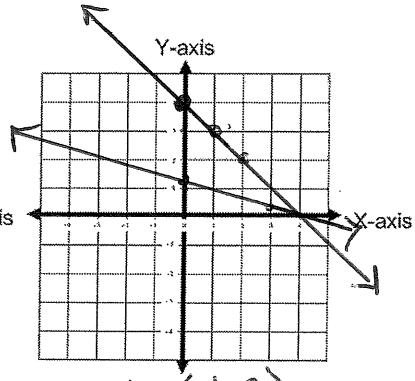
parallel

no solution

3. $\begin{cases} x + 3y = 4 \\ y + x = 4 \end{cases}$

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

$y = -x + 4$



sol: (4,0)

Solve each system by substitution or elimination.

4. $\begin{cases} 2w + 5y = -24 \\ 3w - 5y = 14 \end{cases}$

$5w = -10$

$w = -2$

$2(-2) + 5y = -24$

$-4 + 5y = -24$

$5y = -20$

$y = -4$

sol: $(-2, -4)$

(w, y)

5. $\begin{cases} 4x - 6y = -26 \\ -2x + 3y = 13 \end{cases}$ $\times 2$

$4x - 6y = -26$

$-4x + 6y = 26$

$0 = 0$

infinite solutions

6. $\begin{cases} 3x + 4y = 12 \\ y = x - 3 \end{cases}$

$3x + 4(x - 3) = 12$

$3x + 4x - 12 = 12$

$7x - 12 = 12$

$7x = 24$

$x = \frac{24}{7}$

$y = \frac{24}{7} - 3$

$y = \frac{24}{7} - \frac{21}{7}$

$y = \frac{3}{7}$

sol: $(\frac{24}{7}, \frac{3}{7})$

Without graphing, classify each system as one solution, infinitely many solutions or no solution.

7. $\begin{cases} x+y=3 \\ y=2x-3 \end{cases}$ $y=-x+3$

one solution (different slopes)

8. $\begin{cases} x+3y=9 \\ 9y+3x=27 \end{cases}$ $y=-\frac{1}{3}x+3$ $y=-\frac{1}{3}x+3$

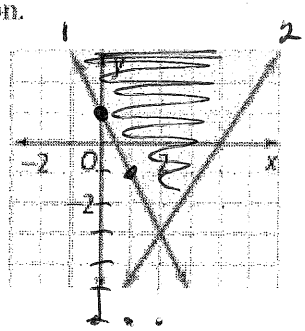
infinite sol's (same line)

9. $\begin{cases} x+2y=13 \\ 2y=7-x \end{cases}$ $y=-\frac{1}{2}x+\frac{13}{2}$ $y=-\frac{1}{2}x+\frac{7}{2}$

no solutions (parallel lines)

10.

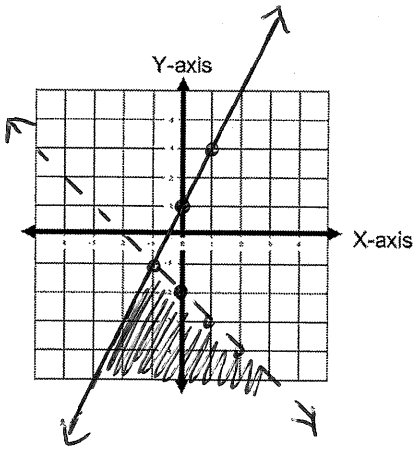
Write a system of inequalities to describe th shaded region.



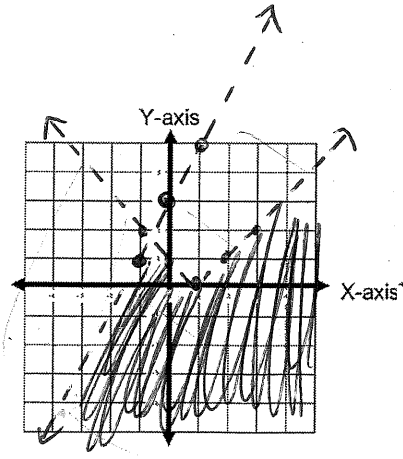
$\begin{cases} y \geq -2x+1 \\ y \geq \frac{3}{2}x-6 \end{cases}$

Solve each system of inequalities by graphing

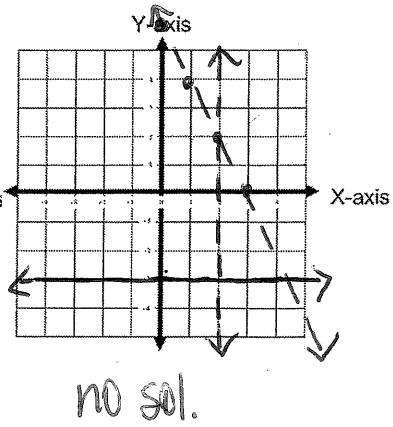
11. $\begin{cases} y \leq 2x+1 \\ y < -x-2 \end{cases}$



12. $\begin{cases} y < 3+2x \\ y < |x-1| \end{cases}$



13. $\begin{cases} y \leq -3 \\ x < 2 \\ 2x+y > 6 \end{cases}$ $y > -2x+6$



no sol.

14

Break-Even Point Jenny's Bakery sells carrot muffins at $2 each. The electricity to run the oven is $120 per day and the cost of making one carrot muffin is $1.40. How many muffins need to be sold each day to break even?

* a muffin has .60 profit

let x = muffins
let y = cost of making x muffins

$y = 1.4x + 1.20$
$y = 2x$

$2x = 1.4x + 120$

$x = 200$ muffins

15.

College Admissions An entrance exam has two sections, a verbal section and a mathematics section. You can score a maximum of 1600 points. For admission, the school of your choice requires a math score of at least 600. Write a system of inequalities to model scores that meet the school's requirements. Then solve the system by graphing.

32. ① $x + y \le 1600$

$y \le -x + 1600$

② $y \ge 600$