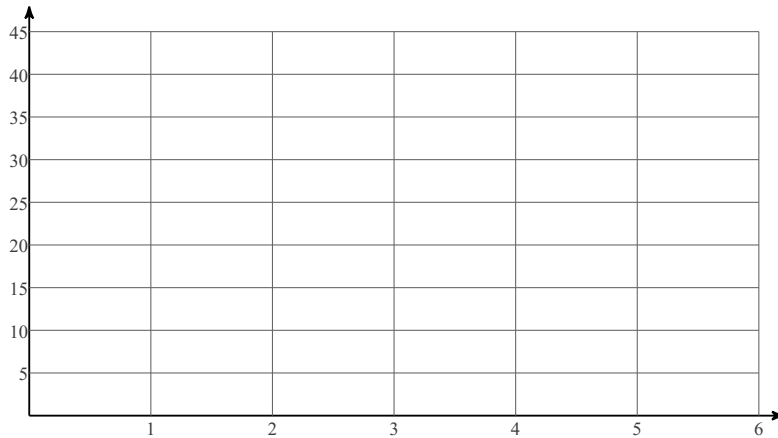


Solving Systems by Graphing - Class Notes Date \_\_\_\_\_ Period \_\_\_\_\_

**Suppose you have \$20 in your bank account. You start saving \$5 each week. Your friend has \$5 in his account and is saving \$10 each week. Assume neither of you make any withdrawals.**

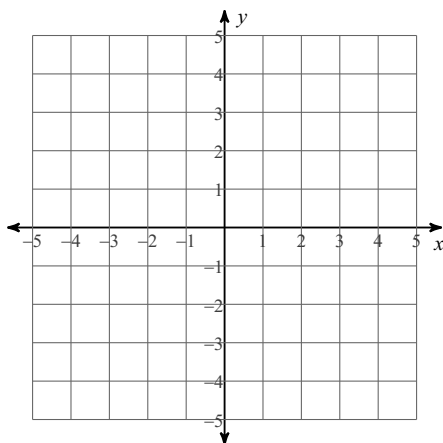
- 1) Write an equation that determines the balance in the account  $y$ , each week  $x$  for your account.
- 2) Write an equation that determines the balance in the account  $y$ , each week  $x$  for your friend's account.
- 3) Label each axis and graph the two equations on the grid below.



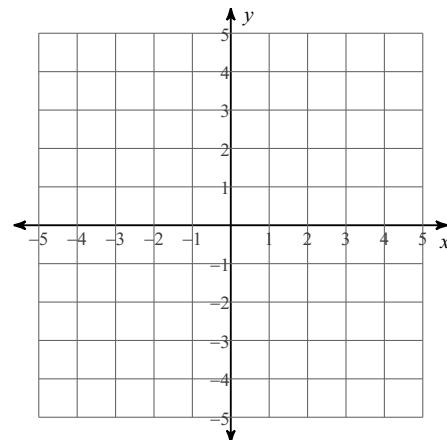
- 4) When will the accounts have the same balance?
- 5) Who will have more money after 2 weeks?
- 6) Who will have more money after 6 weeks?

**Solve each system by graphing.**

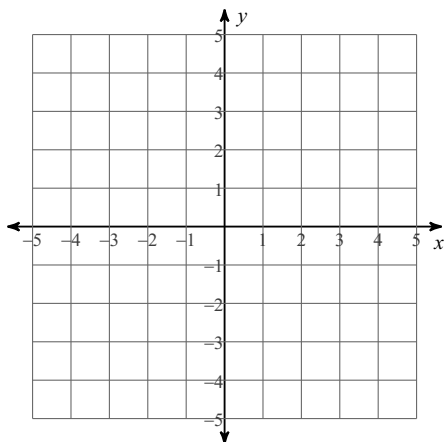
7)  $y = 2x - 2$   
 $y = -\frac{1}{2}x + 3$



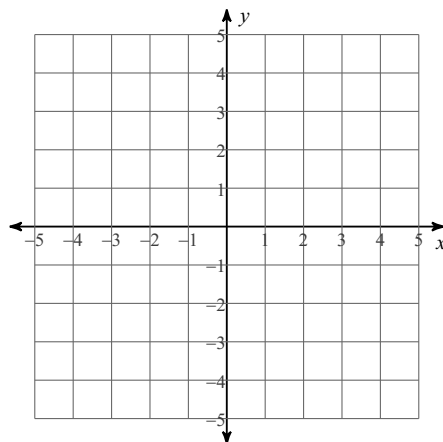
8)  $y = 2x - 4$   
 $y = 2x + 3$



$$9) \begin{aligned} 2x + 3y &= -6 \\ -4x - 6y &= 12 \end{aligned}$$

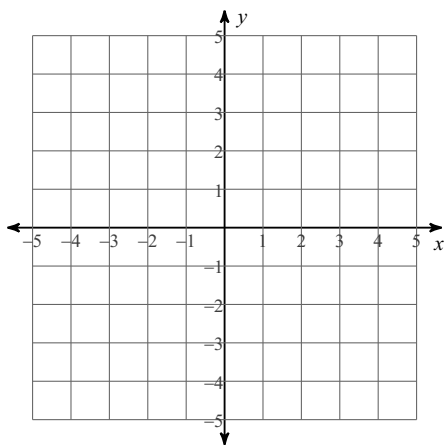


$$10) \begin{aligned} x + 4y &= -12 \\ 3x - 4y &= -4 \end{aligned}$$

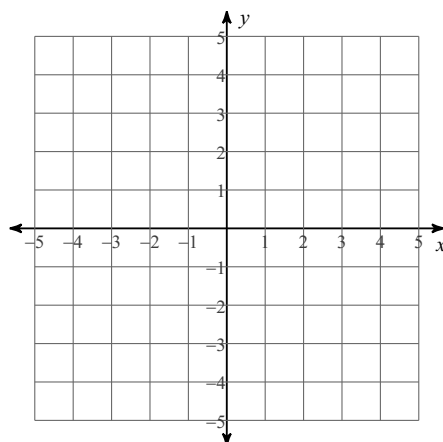


Sketch the solution to each system of inequalities.

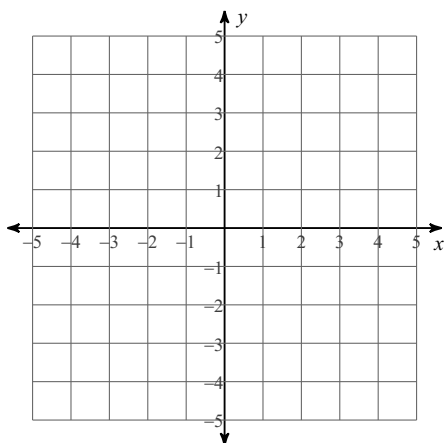
$$11) \begin{aligned} y &\geq -\frac{4}{3}x - 3 \\ y &\leq \frac{1}{3}x + 2 \end{aligned}$$



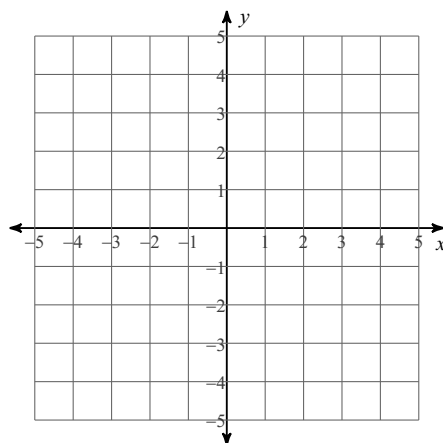
$$12) \begin{aligned} y &> -\frac{4}{3}x - 1 \\ x &\geq -3 \end{aligned}$$



$$13) \begin{aligned} 5x + 2y &> 4 \\ x + 2y &< -4 \end{aligned}$$



$$14) \begin{aligned} 3x - 2y &\geq 2 \\ x + 2y &< 6 \end{aligned}$$



## Solving Systems by Graphing - Class Notes

Date \_\_\_\_\_ Period \_\_\_\_\_

**Suppose you have \$20 in your bank account. You start saving \$5 each week. Your friend has \$5 in his account and is saving \$10 each week. Assume neither of you make any withdrawals.**

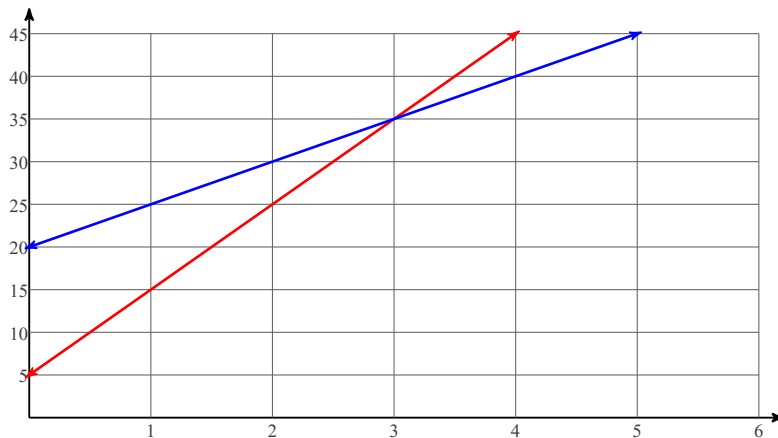
- 1) Write an equation that determines the balance in the account  $y$ , each week  $x$  for your account.

$$y = 20 + 5x$$

- 2) Write an equation that determines the balance in the account  $y$ , each week  $x$  for your friend's account.

$$y = 5 + 10x$$

- 3) Label each axis and graph the two equations on the grid below.



- 4) When will the accounts have the same balance?

3 weeks - \$35.00

- 5) Who will have more money after 2 weeks?

You will (\$30)

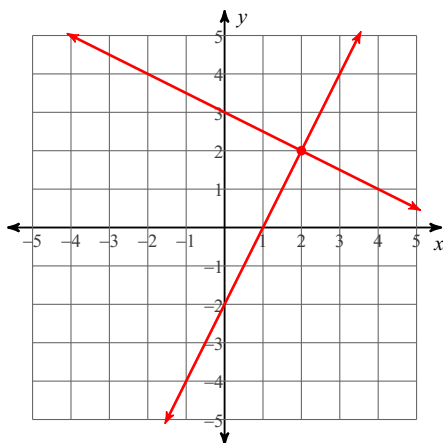
- 6) Who will have more money after 6 weeks?

Your friend will.

**Solve each system by graphing.**

7)  $y = 2x - 2$

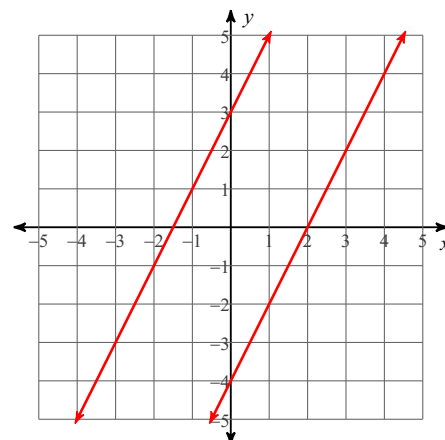
$$y = -\frac{1}{2}x + 3$$



(2, 2)

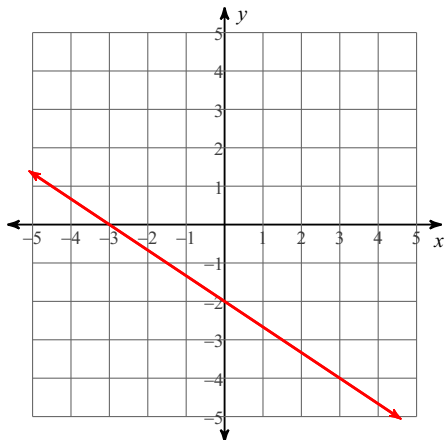
8)  $y = 2x - 4$

$$y = 2x + 3$$

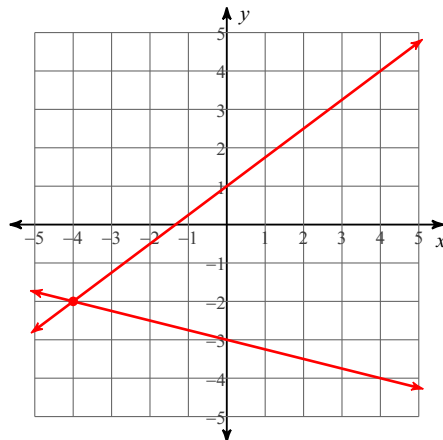


No solution

$$9) \begin{aligned} 2x + 3y &= -6 \\ -4x - 6y &= 12 \end{aligned}$$



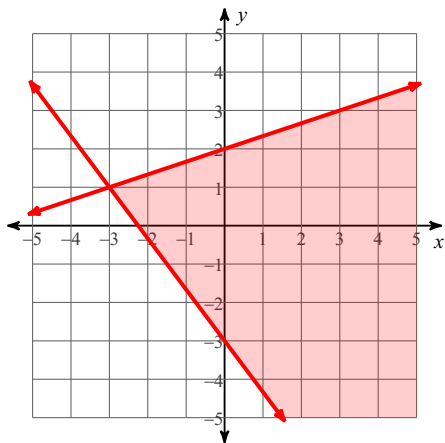
$$10) \begin{aligned} x + 4y &= -12 \\ 3x - 4y &= -4 \end{aligned}$$



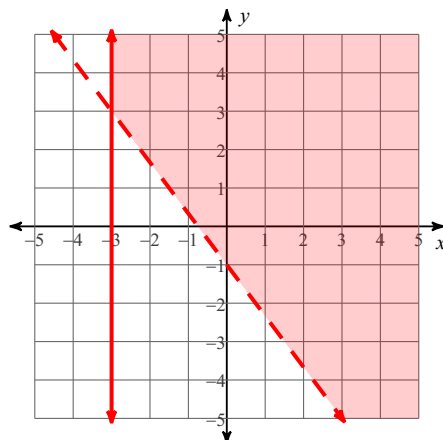
$(-4, -2)$

Sketch the solution to each system of inequalities.

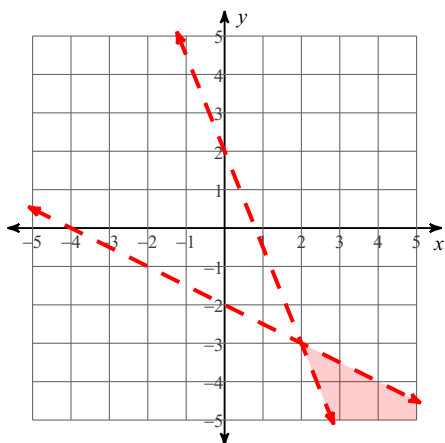
$$11) \begin{aligned} y &\geq -\frac{4}{3}x - 3 \\ y &\leq \frac{1}{3}x + 2 \end{aligned}$$



$$12) \begin{aligned} y &> -\frac{4}{3}x - 1 \\ x &\geq -3 \end{aligned}$$



$$13) \begin{aligned} 5x + 2y &> 4 \\ x + 2y &< -4 \end{aligned}$$



$$14) \begin{aligned} 3x - 2y &\geq 2 \\ x + 2y &< 6 \end{aligned}$$

