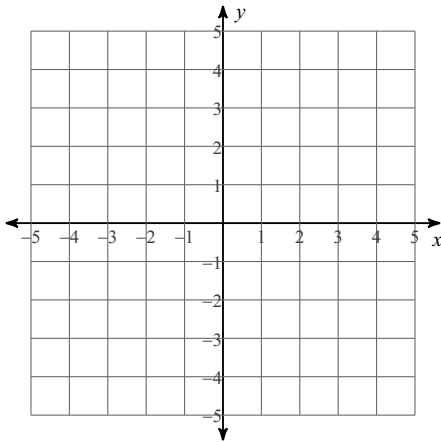


## Linear Systems Review - CLASS EXAMPLES

Solve each system by graphing.

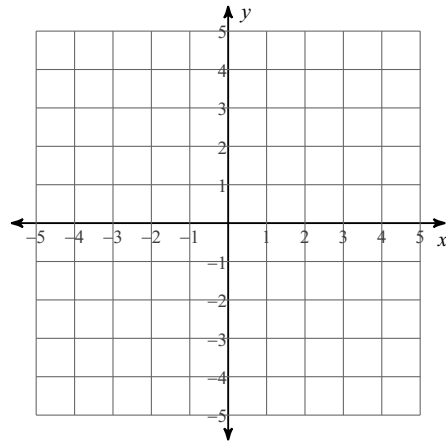
1)  $y = -\frac{5}{3}x + 3$

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

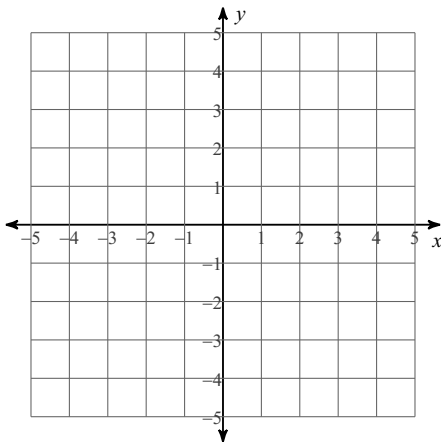


2)  $y = \frac{1}{2}x - 1$

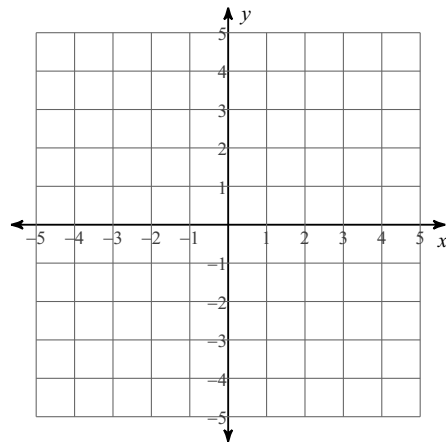
$y = \frac{1}{2}x + 2$



3)  $3x + 2y = 4$   
 $x + 4y = -12$



4)  $x + y = 1$   
 $x - y = -3$



**Solve each system by substitution.**

$$\begin{aligned} 5) \quad & -7x + 7y = 7 \\ & y = 7x - 23 \end{aligned}$$

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

$$\begin{aligned} 7) \quad & 3x - 12y = -21 \\ & x - 4y = -7 \end{aligned}$$

$$\begin{aligned} 8) \quad & -9x + 4y = 9 \\ & 8x + 4y = -8 \end{aligned}$$

**Solve each system by elimination.**

$$\begin{aligned} 9) \quad & x - 6y = -14 \\ & -6x + 6y = 24 \end{aligned}$$

$$\begin{aligned} 10) \quad & x + 4y = 3 \\ & -x + 2y = -3 \end{aligned}$$

$$\begin{aligned} 11) \quad & -8x + y = -10 \\ & 4x + 3y = -2 \end{aligned}$$

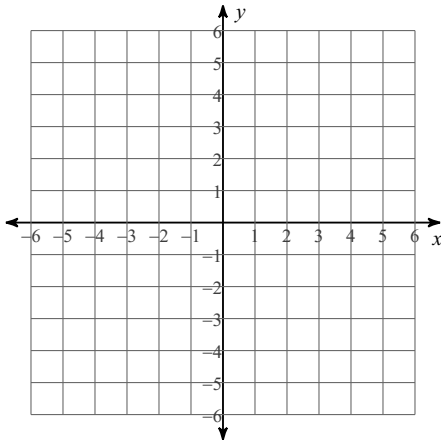
$$\begin{aligned} 12) \quad & -2x - y = 6 \\ & 3x + 2y = -11 \end{aligned}$$

$$\begin{aligned} 13) \quad & -2x + 3y = -10 \\ & 3x + 2y = 2 \end{aligned}$$

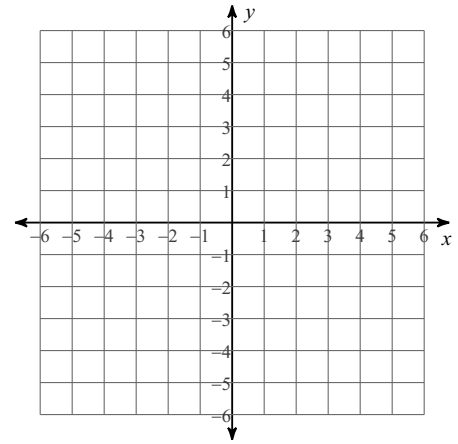
$$\begin{aligned} 14) \quad & 2x - 4y = 10 \\ & -3x - 3y = 12 \end{aligned}$$

Sketch the graph of each linear inequality.

15)  $y \leq -3x - 3$

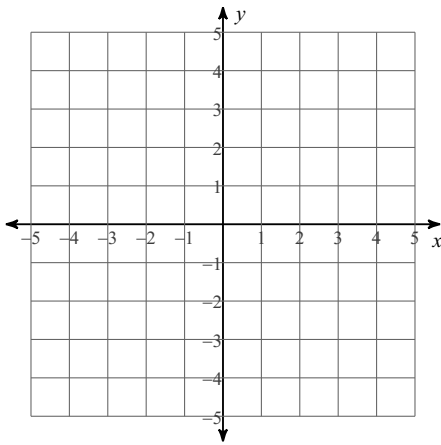


16)  $4x - 5y > -5$

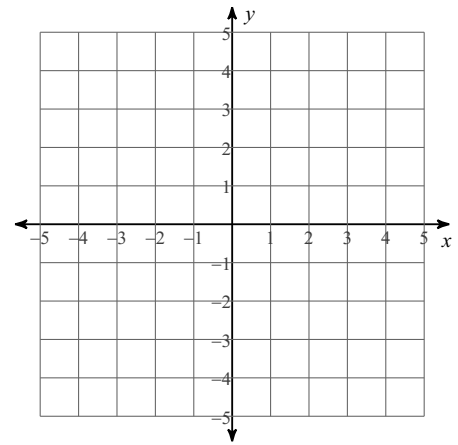


Sketch the solution to each system of inequalities.

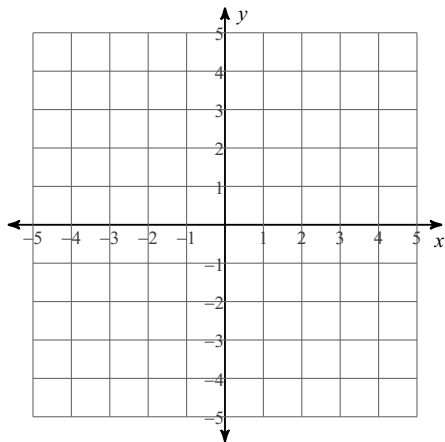
17)  $y > -\frac{1}{2}x - 2$   
 $y \leq -2x + 1$



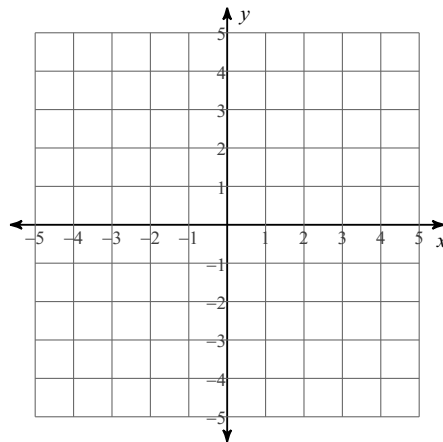
18)  $y \leq -\frac{1}{3}x + 3$   
 $y \geq x - 1$



19)  $x - 2y \geq -2$   
 $x + 2y \geq 6$



20)  $x + 2y \leq -4$   
 $3x + y \leq 3$



**Write, but do not solve, a system of equations for each situation.**

- 21) Chelsea and Mofor are selling pies for a school fundraiser. Customers can buy apple pies and blackberry pies. Chelsea sold 1 apple pie and 1 blackberry pie for a total of \$28. Mofor sold 4 apple pies and 6 blackberry pies for a total of \$142. What is the cost each of one apple pie and one blackberry pie?
- 22) Ryan's school is selling tickets to a fall musical. On the first day of ticket sales the school sold 3 senior citizen tickets and 3 student tickets for a total of \$72. The school took in \$105 on the second day by selling 5 senior citizen tickets and 4 student tickets. Find the price of a senior citizen ticket and the price of a student ticket.

## Answers to Linear Systems Review - CLASS EXAMPLES (ID: 1)

1)  $(3, -2)$

2) No solution

3)  $(4, -4)$

4)  $(-1, 2)$

5)  $(4, 5)$

6) No solution

7) Infinite number of solutions

8)  $(-1, 0)$

9)  $(-2, 2)$

10)  $(3, 0)$

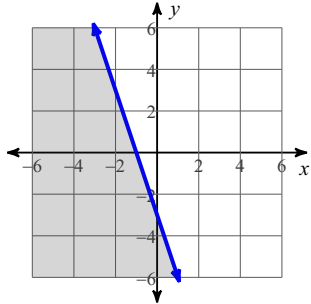
11)  $(1, -2)$

12)  $(-1, -4)$

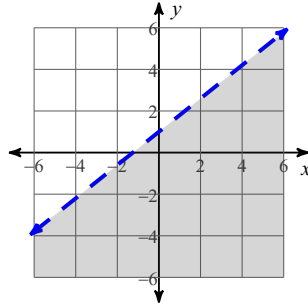
13)  $(2, -2)$

14)  $(-1, -3)$

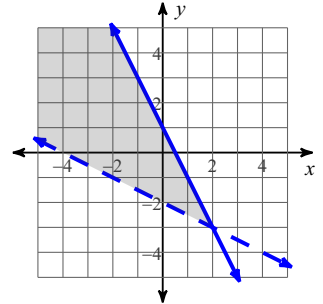
15)



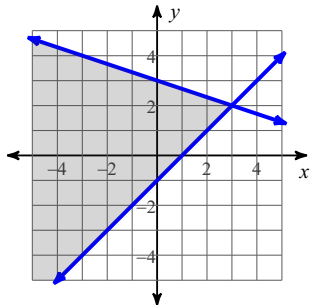
16)



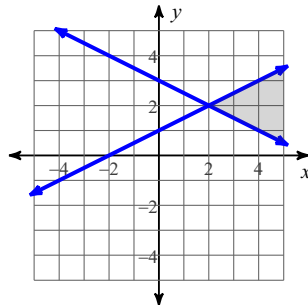
17)



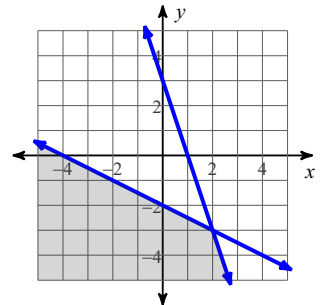
18)



19)



20)



21) apple pie: \$13, blackberry pie: \$15

22) senior citizen ticket: \$9, student ticket: \$15