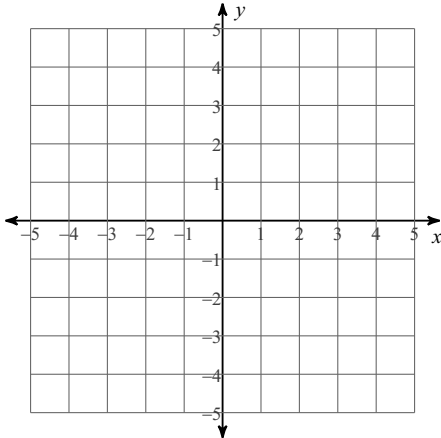


Unit 6 Study Guide

Solve each system by graphing.

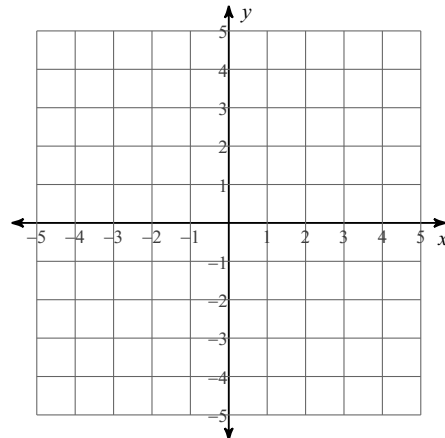
1) $y = \frac{1}{2}x + 3$

$y = 4x - 4$



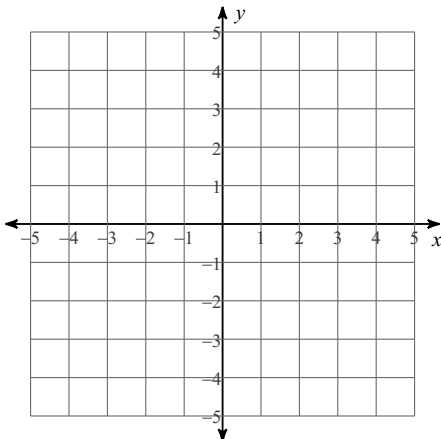
2) $y = -\frac{1}{3}x + 4$

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



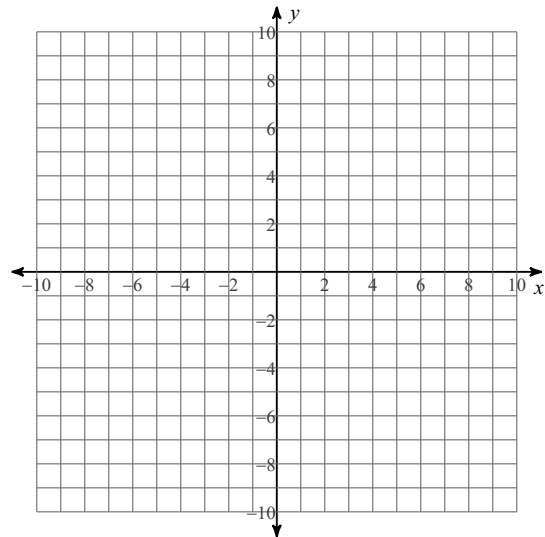
3) $y = x + 2$

$y = -2x - 1$



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

$3x - 4y = 36$

**Solve each system by substitution.**

5) $y = 3x + 5$

$y = x + 3$

6) $-6x + 3y = 1$

$y = 2x + 2$

$$\begin{aligned} 7) \quad & -4x - 4y = 16 \\ & y = 2x + 8 \end{aligned}$$

$$\begin{aligned} 8) \quad & 5x + y = -2 \\ & -x - 5y = -14 \end{aligned}$$

$$\begin{aligned} 9) \quad & 3x + y = -19 \\ & -6x - 6y = 18 \end{aligned}$$

$$\begin{aligned} 10) \quad & -4x - 8y = -8 \\ & 3x + y = 1 \end{aligned}$$

Solve each system by elimination.

$$\begin{aligned} 11) \quad & -3x + 2y = 5 \\ & 3x - 5y = -8 \end{aligned}$$

$$\begin{aligned} 12) \quad & x - 4y = 18 \\ & -3x - 8y = 6 \end{aligned}$$

$$\begin{aligned} 13) \quad & 4x - 4y = -4 \\ & -2x - 3y = 17 \end{aligned}$$

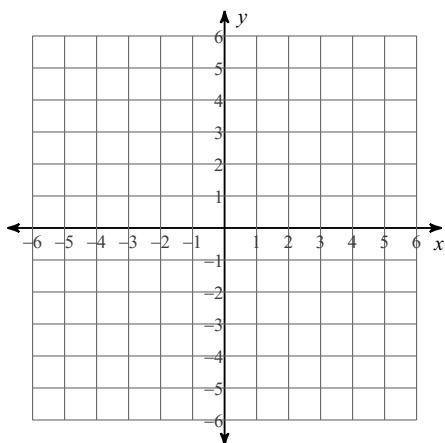
$$\begin{aligned} 14) \quad & -20x - 7y = -27 \\ & 10x - 8y = 2 \end{aligned}$$

$$\begin{aligned} 15) \quad & 2x - 10y = -20 \\ & -3x + 2y = -9 \end{aligned}$$

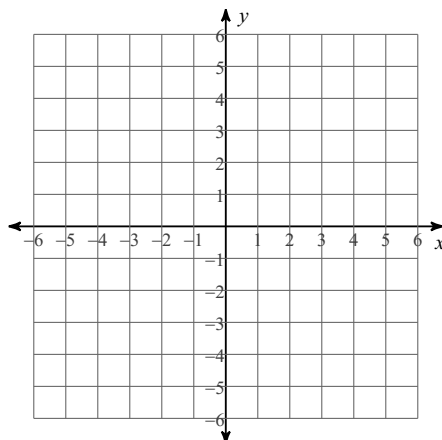
$$\begin{aligned} 16) \quad & -40x - 60y = 20 \\ & -16x - 24y = 8 \end{aligned}$$

Sketch the graph of each linear inequality.

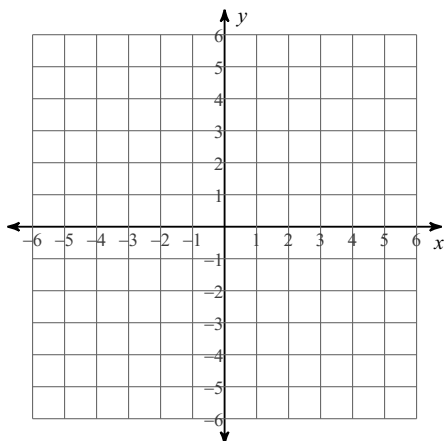
17) $y \leq \frac{2}{5}x + 5$



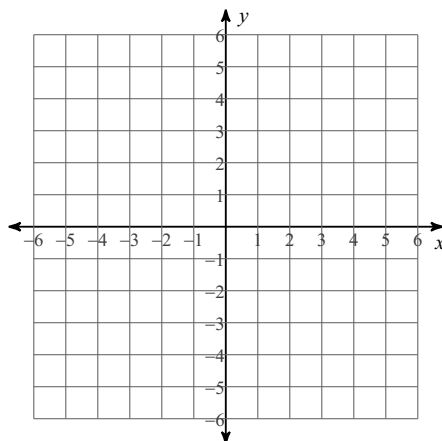
18) $y \geq 3x - 5$



19) $y > -1$

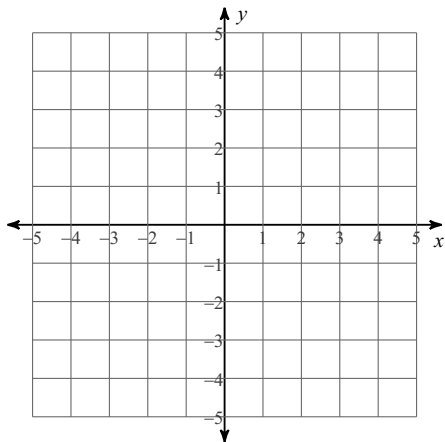


20) $x + 3y \geq 3$

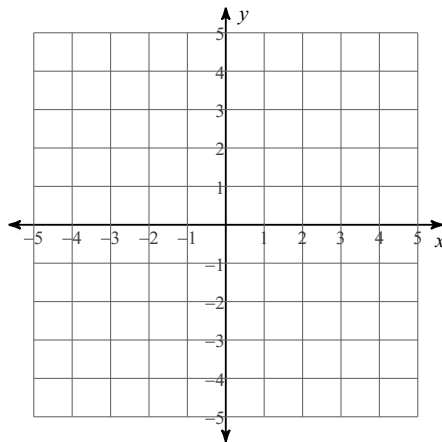


Sketch the solution to each system of inequalities.

21) $y < 2x + 3$
 $y \geq -2x - 1$



22) $x \geq 1$
 $y < x - 3$



- 23) New York City is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 4 vans and 7 buses with 333 students. High School B rented and filled 12 vans and 8 buses with 440 students. Every van had the same number of students in it as did the buses. Find the number of students in each van and in each bus.
- 24) The state fair is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 12 vans and 7 buses with 432 students. High School B rented and filled 6 vans and 3 buses with 192 students. Each van and each bus carried the same number of students. How many students can a van carry? How many students can a bus carry?
- 25) The school that Mofor goes to is selling tickets to a play. On the first day of ticket sales the school sold 10 senior citizen tickets and 4 child tickets for a total of \$166. The school took in \$212 on the second day by selling 4 senior citizen tickets and 12 child tickets. What is the price each of one senior citizen ticket and one child ticket?
- 26) Elisa and Rob are selling pies for a school fundraiser. Customers can buy apple pies and blackberry pies. Elisa sold 10 apple pies and 8 blackberry pies for a total of \$198. Rob sold 3 apple pies and 6 blackberry pies for a total of \$117. What is the cost each of one apple pie and one blackberry pie?