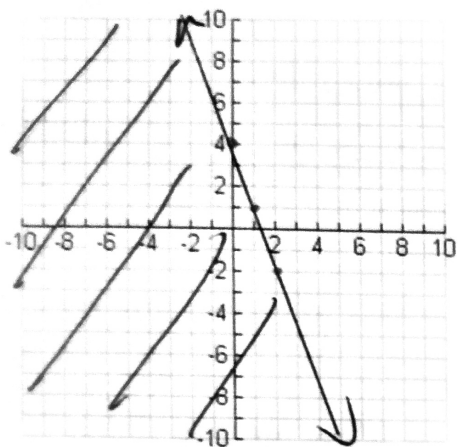


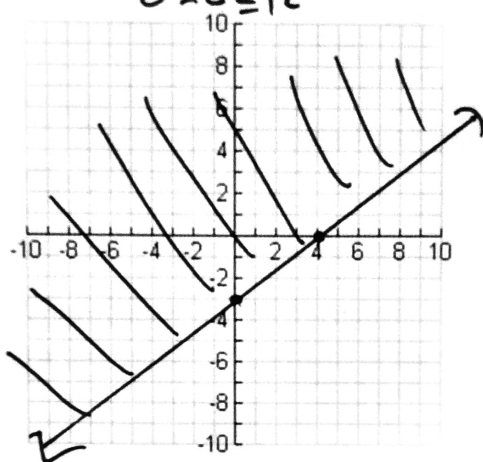
Show all work.

Graph each inequality.

$y \leq -3x + 4$

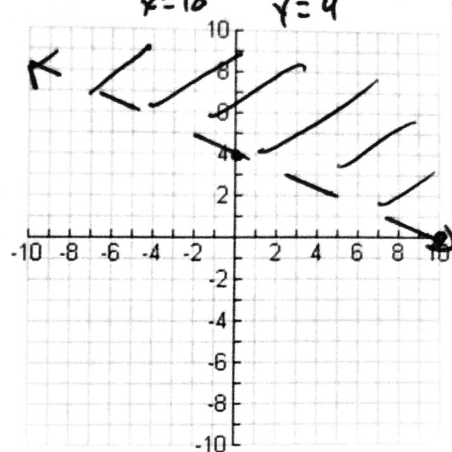


2. $3x - 4y \leq 12$ $x=4$ $y=-3$
 $0 - 0 \leq 12$



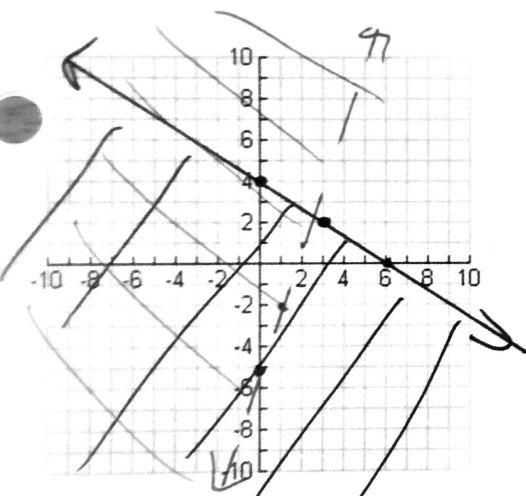
3. $2x + 5y > 20$

$x=10$ $y=4$ $0+0 > 20$

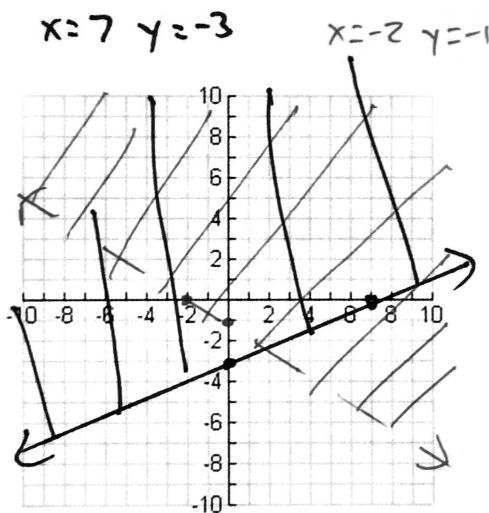


Graph each system of inequalities. Make sure your solution is clear.

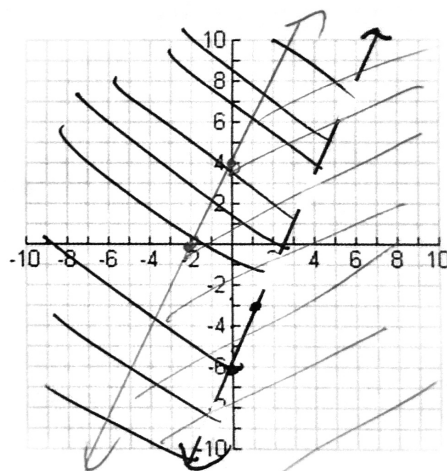
4. $\begin{cases} y \leq -\frac{2}{3}x + 4 \\ y > 3x - 5 \end{cases}$



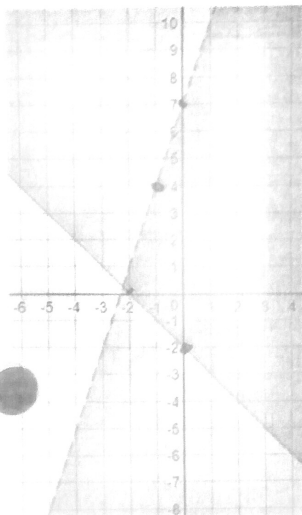
5. $\begin{cases} 3x - 7y \leq 21 \\ 2x + 4y > -4 \end{cases}$



6. $\begin{cases} y > 3x - 6 \\ 4x - 2y \geq -8 \end{cases}$



7. Given the system of inequalities graphed below, answer the following questions:



Write the inequalities for the system:

$y \geq -x - 2$
 $y < 3x + 7$

Circle all points that ARE a solution to the system:

- ~~(0, 7)~~ *on dash* (1, 3) ~~(-3, -2)~~ ~~(-5, 3)~~ (-1, -3)
 (3, 1) (1, -3) *on solid* ~~(-5, -1)~~ (0, -2) *on solid* (10, 0)

Name 3 other points that ARE solutions to the system:

- varies (2, 0) (1, 1) 3, 3

Word Problems. For each problem, define the variables and write a system of equations or inequalities.

DO NOT SOLVE.

8. The track team needed some additional transportation for some of their meets. One week, they filled 2 vans and 3 cars with 61 students. The next week, they filled 4 vans and 6 cars with 62 students. How many students can each van and each car carry?

Variables: $x = \# \text{ vans}$
 $y = \# \text{ cars}$

Equations/inequalities:
$$\begin{cases} 2x + 3y = 61 \\ 4x + 6y = 62 \end{cases}$$

9. Jonah went shopping for supplies for his construction project. He bought 42 boards. The 4x4 boards cost \$8 each and the 2x4 boards cost \$5 each. If Jonah spent a total of \$285, how many of each type of board did he buy?

Variables: $x = \# \text{ 4x4 boards}$
 $y = \# \text{ 2x4 boards}$

Equations/inequalities:
$$\begin{cases} x + y = 42 \\ 8x + 5y = 285 \end{cases}$$

10. The technical theater crew is planning workdays for the next school play. They believe it will take 4 hours to build each large prop and 2 hours to build each small prop. They have no more than 40 hours to work on the props. They also have determined that the materials to build each large prop cost \$40, the materials needed to build each small prop are \$8, and they have a budget of \$200. How many of each size prop can they build?

Variables: $x = \# \text{ Large props}$
 $y = \# \text{ Small props}$

Equations/inequalities:
$$\begin{cases} 4x + 2y \leq 40 \\ 40x + 8y \leq 200 \end{cases}$$

11. Da'quan and Maria are shopping for music downloading services. Cool Music charges \$30 to join, then \$0.25 per song to download. Fun Tunes charges \$5 to join, then \$0.50 per song to download. When will the cost of the two services be equal?

Variables: $x = \# \text{ songs}$
 $y = \text{TOTAL COST}$

Equations/inequalities:
$$\begin{cases} y = .25x + 30 \\ y = .50x + 5 \end{cases}$$

12. The holiday bazaar sold 250 ornaments for a total of \$1200. If plain ornaments were \$8 each and personalized ornaments were \$10 each, how many of each type of ornament were sold?

Variables: $x = \# \text{ of plain ornaments}$
 $y = \# \text{ of personalized}$

Equations:
$$\begin{cases} x + y = 250 \\ 8x + 10y = 1200 \end{cases}$$