

$(0, -2)$

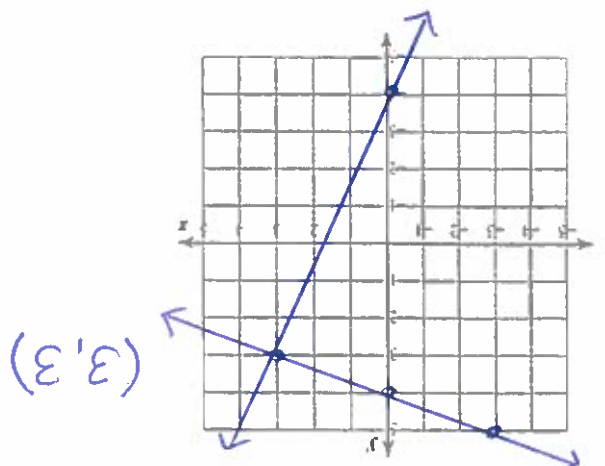
$$\begin{array}{r} 3y = -6 \\ \underline{9x - 7y = 14} \\ 9x + 14 = 14 \\ -14 \quad -14 \\ \hline 9x = 0 \\ x = 0 \end{array}$$

Solve each system by elimination.

$$\begin{array}{r} 7x - 7 = 14 \\ + 7 \quad + 7 \\ \hline 7x = 21 \\ x = 3 \end{array}$$

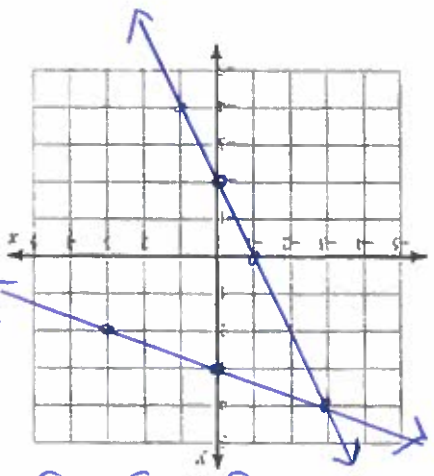
$(3, 7)$

Solve each system by substitution.



$$\begin{array}{l} 1) y = \frac{3}{7}x - 4 \quad m = \frac{3}{7}, b = -4 \\ y = -\frac{1}{3}x + 4 \quad m = -\frac{1}{3}, b = 4 \end{array}$$

Solve each system by graphing.



$$\begin{array}{l} 2) 2x + y = -2 \quad m = -\frac{1}{2}, b = -2 \\ x + 3y = 9 \quad m = \frac{1}{3}, b = 3 \end{array}$$

$(-3, 4)$

$(3, 2)$

$$\begin{array}{r} 2x - 3y = -20 \\ \underline{3(-5x + y = 11)} \\ -15x + 3y = 33 \\ \hline -13x = -20 \\ \underline{-13x = 13} \\ -13 \quad -13 \\ \hline x = -1 \end{array}$$

$$\begin{array}{r} -5(-1) + y = 11 \\ 5 + y = 11 \\ -5 \quad -5 \\ \hline y = 6 \end{array}$$

$(-1, 6)$

$$\begin{array}{r} -5x - 3y = -21 \\ x + 6y = 15 \\ \underline{-6y - 6y} \\ -5x - 9y = -21 \\ \underline{5x = 15} \\ -9y = -21 \\ \underline{-9y = -12} \\ x = 3 \end{array}$$

$$\begin{array}{r} -75 + 27y = -21 \\ \underline{+ 75} \\ 27y = 54 \\ \underline{27} \\ y = 2 \end{array}$$

$(3, 2)$

Date _____

Unit 3 Review

Name _____

7) Rob and Abhasra are selling pies for a school fundraiser. Customers can buy apple pies and blackberry pies. Rob sold 10 apple pies and 9 blackberry pies for a total of \$250. Abhasra sold 5 apple pies and 3 blackberry pies for a total of \$95. Find the cost each of one apple pie and one blackberry pie.

$$\begin{aligned}
 10a + 9b &= 250 \\
 -2(5a + 3b) &= -95 \\
 \hline
 10a + 9b &= 250 \\
 -10a - 6b &= -95 \\
 \hline
 15b &= 155 \\
 b &= 10.33 \\
 \hline
 10a + 9(10.33) &= 250 \\
 10a + 93 &= 250 \\
 10a &= 157 \\
 a &= 15.7
 \end{aligned}$$

$$\begin{aligned}
 10a + 180 &= 250 \\
 -150 & & -150 \\
 \hline
 10a &= 70 \\
 a &= 7
 \end{aligned}$$

Apple pies: \$7.00
blackberry pies: \$20.00

8) Jose's school is selling tickets to a fall musical. On the first day of ticket sales the school sold 8 senior citizen tickets and 9 child tickets for a total of \$96. The school took in \$36 on the second day by selling 4 senior citizen tickets and 3 child tickets. What is the price each of one senior citizen ticket and one child ticket?

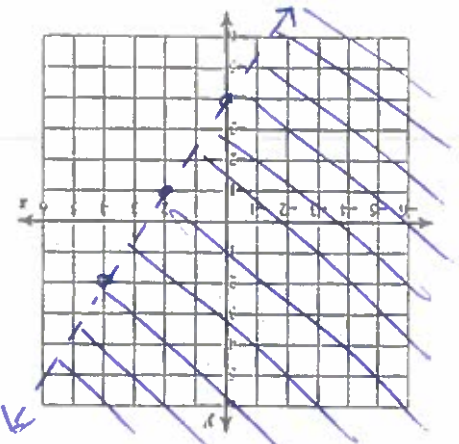
$$\begin{aligned}
 8s + 9c &= 96 \\
 -2(4s + 3c) &= -36 \\
 \hline
 8s + 9c &= 96 \\
 -8s - 6c &= -36 \\
 \hline
 15c &= 132 \\
 c &= 8.8 \\
 \hline
 8s + 9(8.8) &= 96 \\
 8s + 79.2 &= 96 \\
 8s &= 16.8 \\
 s &= 2.1
 \end{aligned}$$

$$\begin{aligned}
 4s + 3(8) &= 36 \\
 4s + 24 &= 36 \\
 -24 & & -24 \\
 \hline
 4s &= 12 \\
 s &= 3
 \end{aligned}$$

Senior tickets: \$3.00
Child tickets: \$8.00

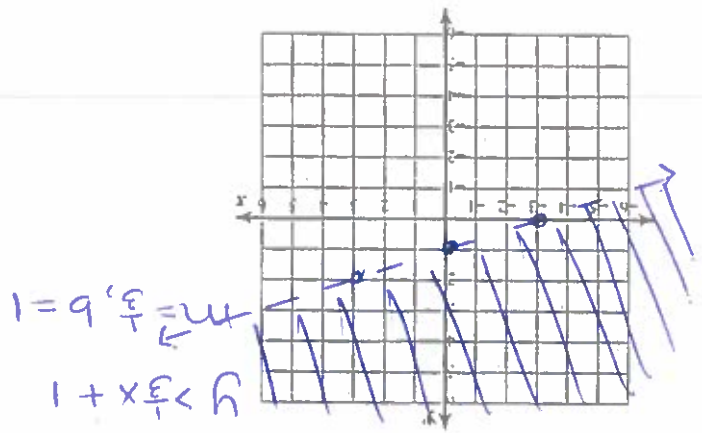
Sketch the graph of each linear inequality.

9) $y > \frac{2}{3}x - 4$ $m = \frac{2}{3}, b = -4$



10) $x - 3y < -3$

$$\begin{aligned}
 x - 3y &< -3 \\
 -x - 3y &< -3 - x \\
 \hline
 -3y &< -3 - x \\
 y &> \frac{-3 - x}{-3} \\
 y &> \frac{1}{3}x + 1
 \end{aligned}$$

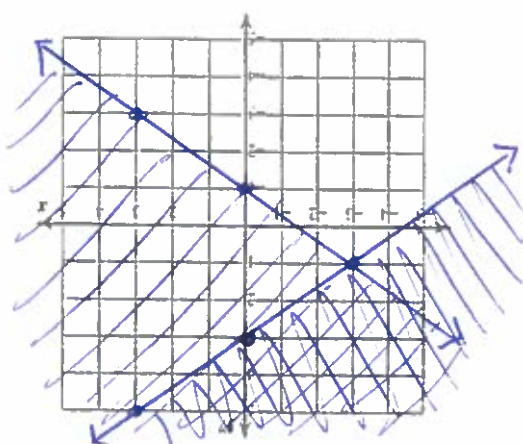


$m = \frac{1}{3}, b = 1$
 $y > \frac{1}{3}x + 1$

Sketch the solution to each system of inequalities.

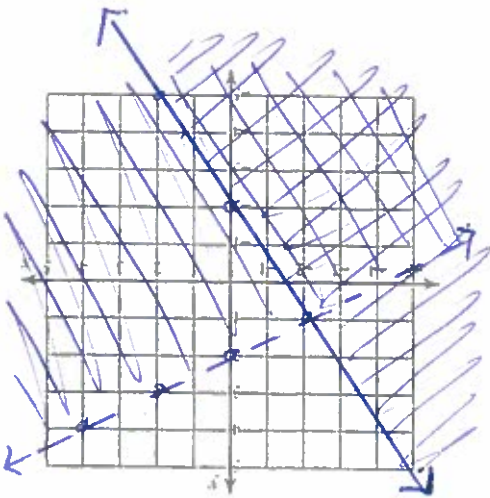
11) $y \geq -\frac{3}{2}x - 1$ $m = -\frac{3}{2}, b = -1$

$y \geq \frac{3}{2}x + 3$ $m = \frac{3}{2}, b = 3$



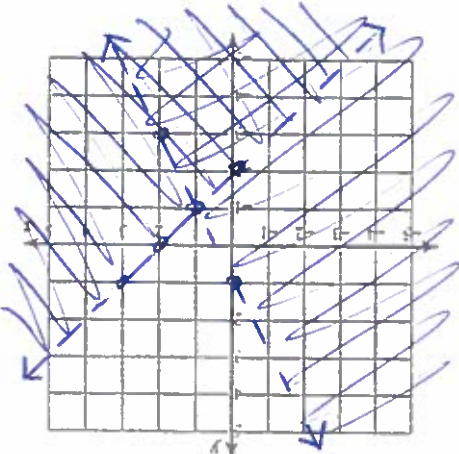
12) $y < \frac{1}{2}x + 2$ $m = \frac{1}{2}, b = 2$

$y \leq -\frac{3}{2}x - 2$ $m = -\frac{3}{2}, b = -2$



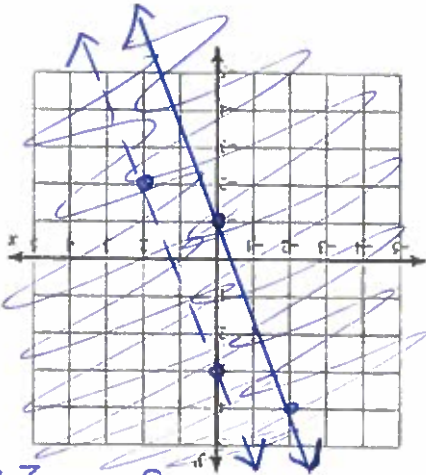
13) $2x + y < 1$ $y < -2x + 1$

$x - y > 2$ $y < x - 2$



14) $5x + 2y < 6$ $y < -\frac{5}{2}x + 3$

$5x + 2y \geq -2$ $y \geq -\frac{5}{2}x - 1$



Directions:

Today you will be taking the GSE Algebra I, Unit 2 assessment on Reasoning with Linear Equations and Inequalities. You will have 60 minutes to complete the assessment.

Do your best work. Read each question carefully. For each selected-response item, indicate the best answer. For each constructed-response item, provide the most detailed and accurate response possible. Be sure to record your responses, legibly, on the answer document provided. The standard for each assessment item is referenced above the item.

You may use scratch paper to complete your work. The use of a scientific or graphing calculator may be necessary to solve some assessment items.

A.CED.2

1. What is the equation of the line that passes through the point (4,1) and has a y-intercept of -5?
- $y = \frac{2}{3}x$
 - $y = \frac{3}{2}x - 5$
 - $y = \frac{1}{9}x - 5$
 - $y = \frac{1}{9}x + \frac{9}{5}$

A.REI.5

2. Look at the system of equations.

$$\begin{aligned} ax + by &= c \\ dx + ey &= f \end{aligned}$$

The system has a unique solution, (x, y) . Which system of equations has the same solution?

- $ax + by = c$
- $dx - ey = f$
- $ax + by = c$
- $(a + e)x + (b + d)y = c + f$
- $ax + by = c$
- $(a + d)x + (b - e)y = c + f$
- $ax + by = c$
- $(a + 2d)x + (b + 2e)y = c + 2f$

A.REI.10

3. The coordinate plane, seen below, shows the graph of an equation.