

Here is the  
Alg I Snow  
Day Packets  
for 5 days.

Judy Camden

## Review: Solving Equations

Solve each equation.

$$1) \begin{array}{r|l} v-17 & -11 \\ +17 & +17 \\ \hline v & 6 \end{array} \quad \text{Example}$$

$$\boxed{v=6}$$

2)  $x - 5 = -14$

3)  $36 = 3n$

4)  $r + 1 = 21$

5)  $-3v = 15$

6)  $-20 = n - 14$

Example

$$7) \begin{array}{r|l} 22 & 7 - 8x + 3x \\ 22 & 7 - 5x \\ -7 & -7 \\ \hline 15 & -5x \\ -5 & -5 \\ -3 & x \end{array}$$

$$\boxed{x = -3}$$

8)  $2 = 8 - 2k + 2$

9)  $7 - 5v + v = 15$

10)  $8 = -7x + 6x$

11)  $-8x - 7x = 15$

12)  $4 = 4 - 2a - 5a$

Example

$$\begin{array}{r|l} 13) -2(6x+1) & = -86 \\ -12x-2 & = -86 \\ +2 & +2 \\ \hline -12x & = -84 \\ -12 & -12 \\ \hline x & = 7 \\ \hline \boxed{x=7} & \end{array}$$

$$14) -4 - 4(1 - 8x) = -232$$

$$15) 232 = -8(1 - 5n)$$

$$16) -90 = -6(r + 7)$$

$$17) 414 = 8(8 + 8p) + 6p$$

$$18) 36 = 7(6 + 4m) - 2(3 - 3m)$$

$$19) -41 = -4(-2 + 8a) + 5(1 + a)$$

$$20) 4(3n + 3) + 4(6n + 1) = -20$$

Example

$$\begin{array}{r|l} 21) -35 & = 5(6x+5) - 4(-4x-8) \\ -35 & = 30x+25 + 16x + 32 \\ -35 & = 46x + 57 \\ -57 & -57 \\ \hline -92 & = 46x \\ 46 & 46 \\ \hline -2 & = x \\ \hline \boxed{x=-2} & \end{array}$$

$$22) -42 = 6(5 - 4n) - (n - 3)$$

$$23) -8(-5 - 3p) = -4(-1 - 3p)$$

$$24) -8(1 - 5a) = 3(8a + 8)$$

$$25) 3(1 - a) - 3(1 - 5a) = a + 5a$$

$$26) 3(2 - 8n) = -6(-6 + 3n)$$

Review: Slope

Find the slope of the line through each pair of points.

1) (17, 4), (-11, 1)

2) (-18, 11), (18, -17)

$$\boxed{\frac{y_2 - y_1}{x_2 - x_1} = m}$$

Find the slope of each line.

Example 3)  $y = \frac{1}{4}x + 5$   
 $m = \frac{1}{4}$

5)  $y = x$

6)  $x = -1$

Find the slope of a line perpendicular to each given line.

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

8)  $y = -5x$

Find the slope of a line parallel to each given line.

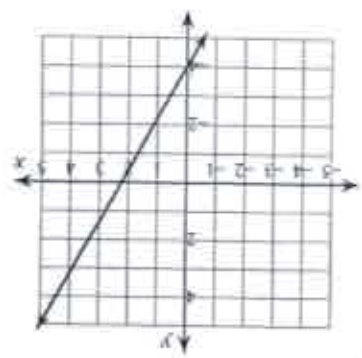
9)  $y = -\frac{4}{9}x - 4$

10)  $y = 2x - 1$

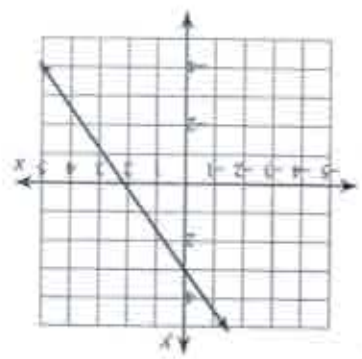
Write the slope-intercept form of the equation of each line.

$y = mx + b$

(slope-intercept form)



11)



12)

Write the slope-intercept form of the equation of each line given the slope and y-intercept.

13) Slope = -2, y-intercept = -3

14) Slope = 10, y-intercept = -5

Write the slope-intercept form of the equation of each line.

Example  
15)  $x - y = -2$

$$-y = -x - 2$$

$$y = x + 2$$

16)  $5x + y = -2$

18)  $y + 5 = \frac{2}{3}(x + 4)$

17)  $y - 3 = \frac{3}{8}(x - 3)$

Write the slope-intercept form of the equation of the line through the given point with the given slope.

19) through: (2, 4), slope = 4

20) through: (-2, -1), slope =  $-\frac{1}{2}$

Write the slope-intercept form of the equation of the line through the given points.

21) through: (4, -1) and (3, 4)

22) through: (0, -3) and (5, 4)

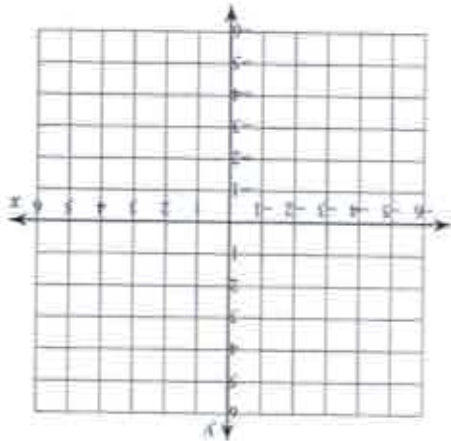
Write the slope-intercept form of the equation of the line described.

23) through: (-5, -2), parallel to  $y = \frac{1}{5}x - 3$

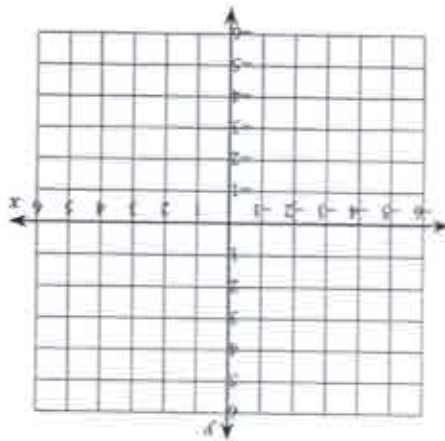
24) through: (-3, 4), perp. to  $y = 3x - 4$

Review: Slope

Sketch the graph of each line.  
 1)  $x$ -intercept = 2,  $y$ -intercept = 5  
 (2, 0) (0, 5)

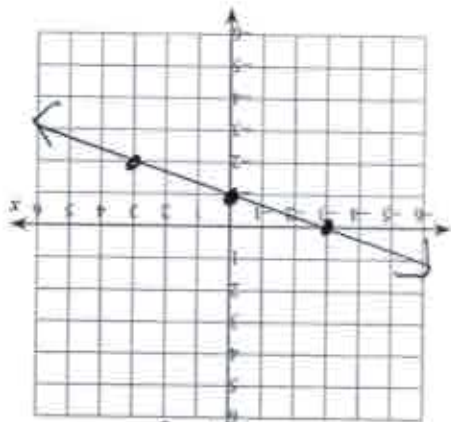


3)  $y = -x + 4$

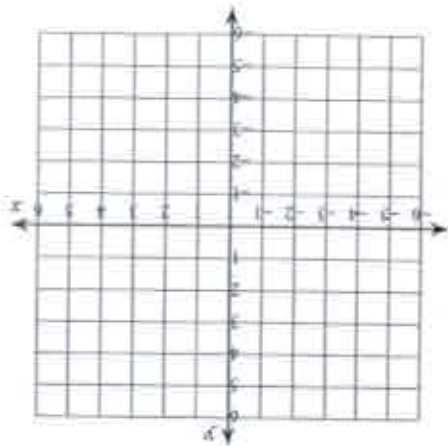


Example  
 5)  $y = -\frac{3}{4}x - 1$

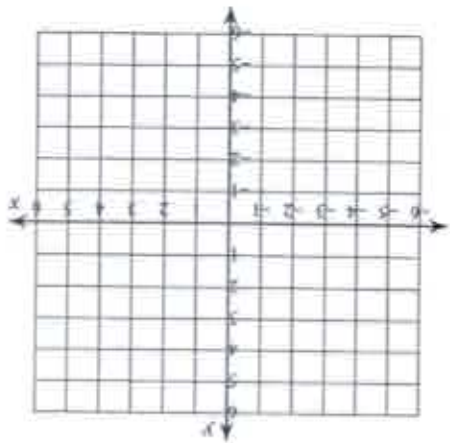
$m = -\frac{3}{4}$   
 $y$ -int: (0, -1)



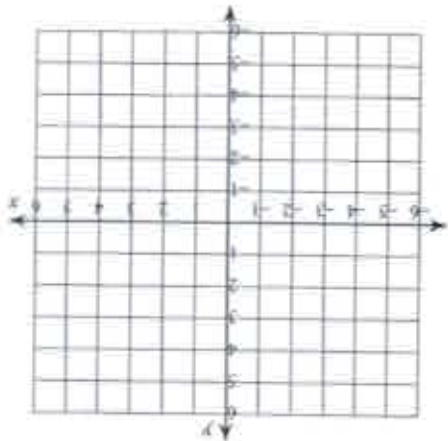
6)  $y = \frac{5}{4}x$

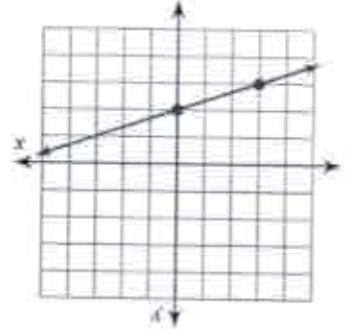


4)  $y = x + 5$



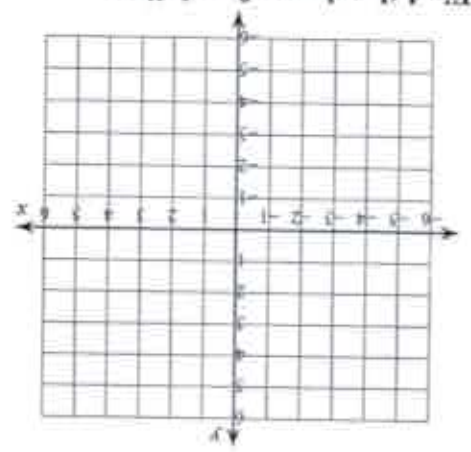
2)  $x$ -intercept = -5,  $y$ -intercept = 2



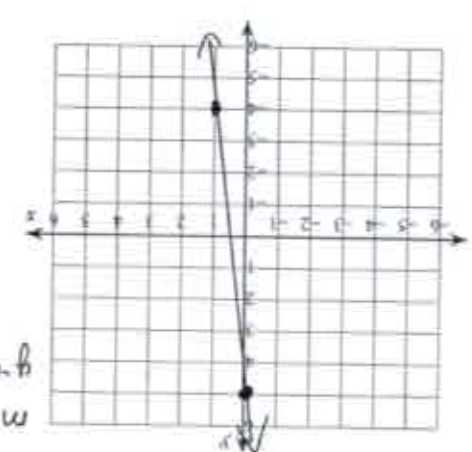


13)

Find the slope of each line.

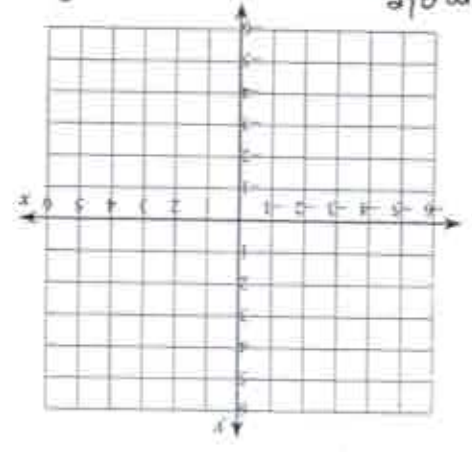


11)  $y = -5$

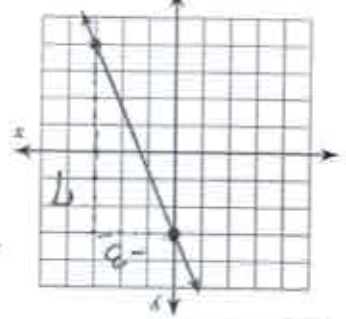


$m = -9$   
 $y$ -int:  $(0, 5)$

Example  $\frac{9}{9}x + y = 5$   
 $y = -9x + 5$



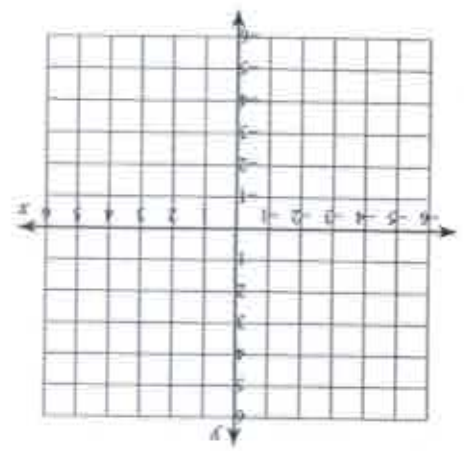
7)  $3x + 2y = 4$



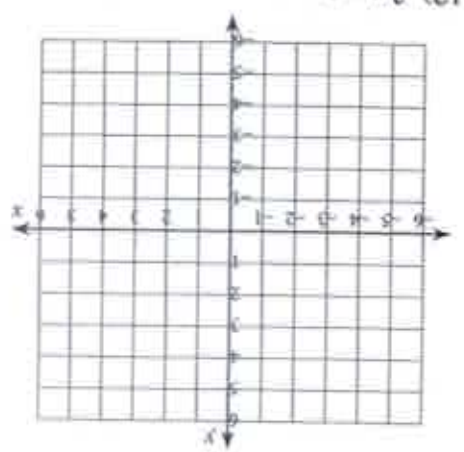
14) Example

$$m = -\frac{3}{1}$$

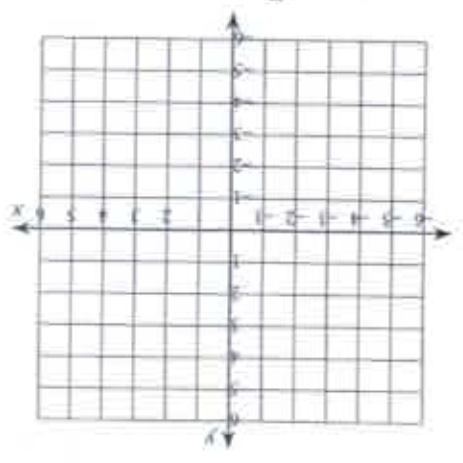
rise 3  
run -1



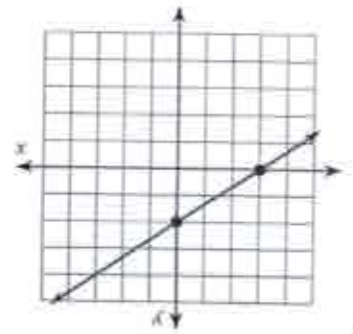
12)  $3x = y$



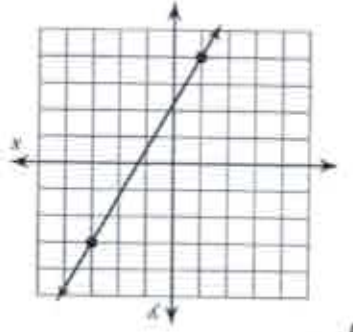
10)  $y = -4 + \frac{5}{7}x$



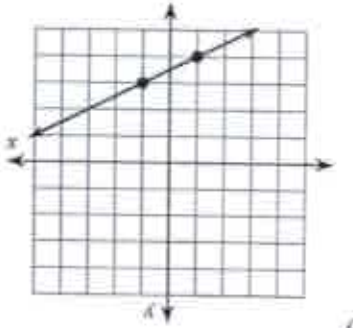
8)  $x + y = 4$



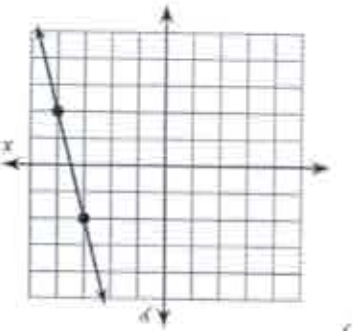
(23)



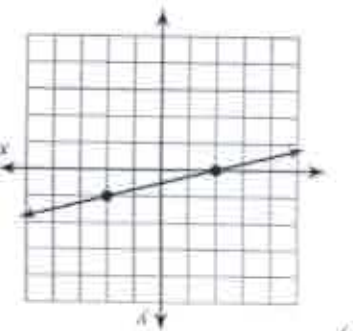
(21)



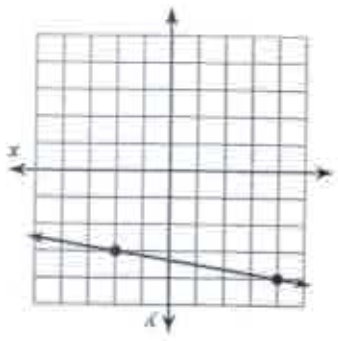
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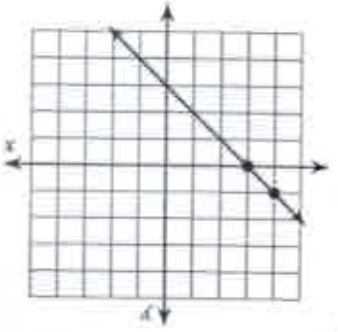
(17)



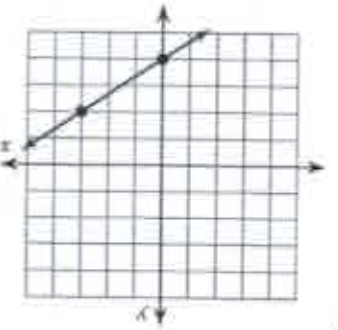
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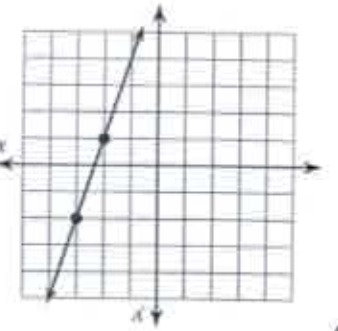
(24)



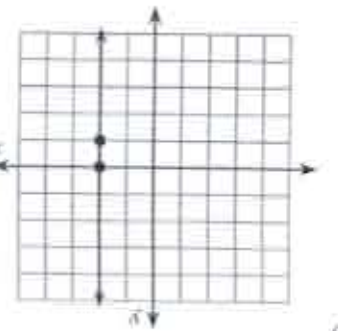
(22)



(20)



(18)



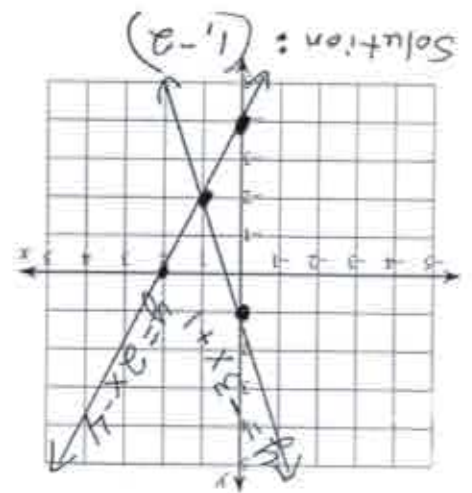
(16)



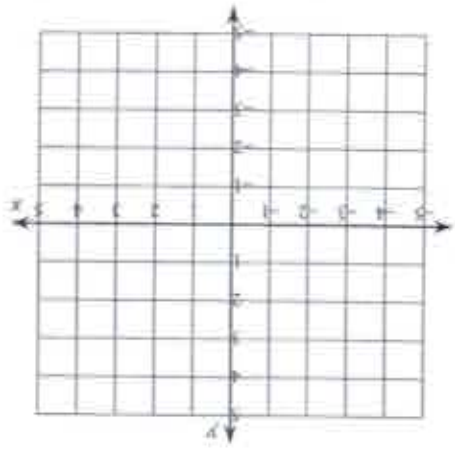
Review: Systems of Equations

Solve each system by graphing.

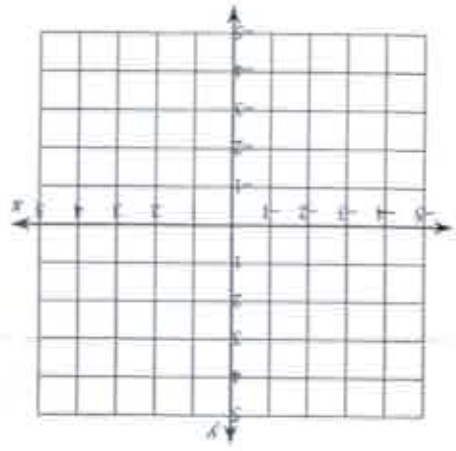
1)  $y = -3x + 1$   
 $y = 2x - 4$   
 Example



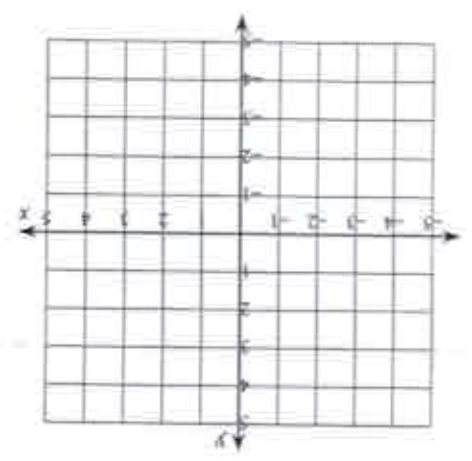
2)  $y = x - 2$   
 $y = -x - 4$

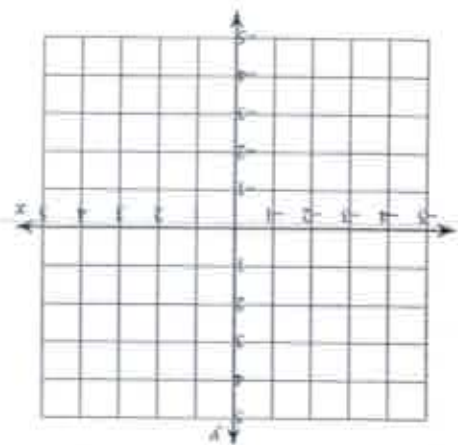


4)  $y = -x - 3$   
 $y = \frac{2}{5}x + 4$

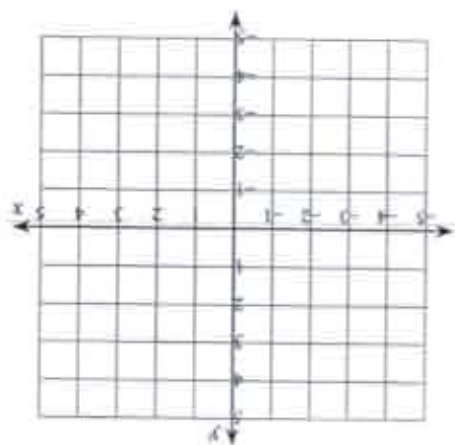


3)  $y = -\frac{1}{2}x + 3$   
 $y = -3x - 2$





8)  $x - 2y = 2$   
 $x - 2y = 6$

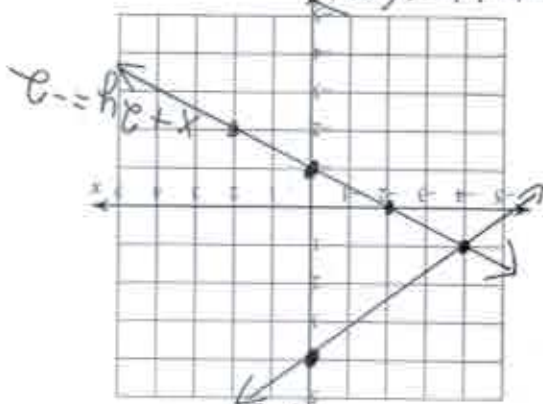


7)  $x - 3y = 9$   
 $5x - 3y = -3$

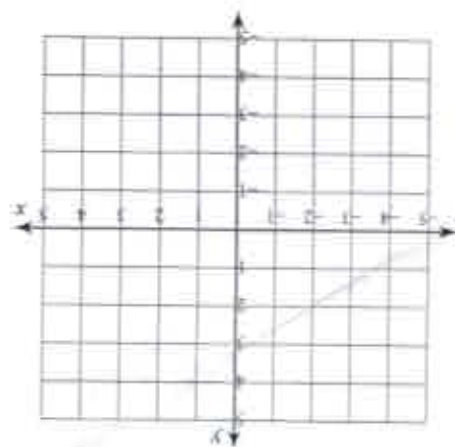
$y = \frac{2}{1}x - 1$   
 $\frac{2y}{2} = \frac{2x}{2} - \frac{2}{2}$   
 $x + 2y = -2$

$y = \frac{4}{3}x + 4$   
 $\frac{-4y}{-4} = \frac{-3x - 16}{-4}$   
 $3x - 4y = -16$

Solution:  $(-4, 1)$

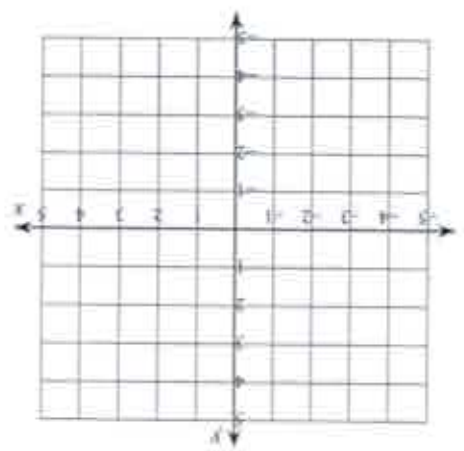


Example  
 6)  $3x - 4y = -16$   
 $x + 2y = -2$

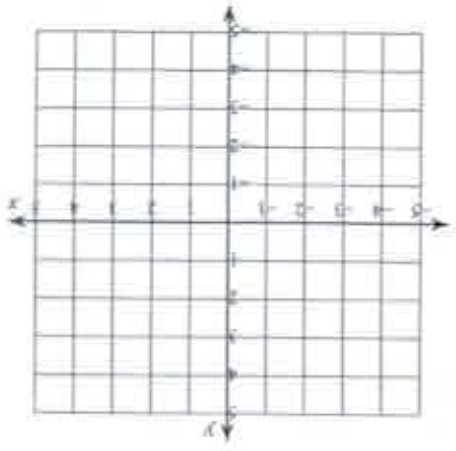


5)  $x - 4y = -4$   
 $5x - 4y = 12$

9)  $7x - 4y = -16$   
 $x - 4y = 8$



10)  $x - y = 4$   
 $4x + 3y = 9$



11)  $-3x - 4y = -7$   
 $3x + 2y = -7$

13)  $-6x + 10y = 19$   
 $-6x + 10y = 22$

15)  $-7x + 5y = 13$   
 $-8x + 9y = 28$

Use elimination to find the x-coordinate of the solution to each system.

Example 12)  $10x - 8y = 0$   
 $-7x + 8y = 0$

$3x = 0$   
 $x = 0$

14)  $-x - 8y = -6$   
 $-6x - 8y = 4$

16)  $y = -6x + 14$   
 $y = 6x - 22$

17)  $y = 3x + 7$   
 $y = -3x - 11$

Use substitution to find the x-coordinate of the solution to each system.

Example 18)  $y = 4x + 16$   
 $4x - 5y = -8$

$y = -4(3) + 16$   
 $y = -12 + 16$   
 $y = 4$

Solution  
 $(3, 4)$

20)  $y = -6$   
 $4x - 4y = 24$   
 $4x + 24 = 24$   
 $4x = 0$   
 $x = 0$

19)  $2x + 8y = -12$   
 $y = 3x + 18$

21)  $y = -7$   
 $4x - 7y = 17$

Review: Inequalities

Solve each inequality and graph its solution.

Example

$$1) -8 + p \geq -3$$



$$-8 + p \geq -3$$

$$+8 \quad +8$$

$$p \geq 5$$

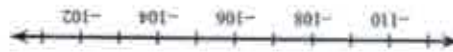
$$3) 12 \geq \frac{m}{11}$$



$$5) 2 - p \geq -17$$



$$7) -12 < \frac{k}{9}$$



Example  
9)  $\frac{-5+x}{7} \leq -3$



$$(-) \frac{-5+x}{7} \leq -3(7)$$

$$-5+x \leq -21$$

$$+5 \quad +5$$

$$x \leq -16$$

Example

$$11) 93 > -9r + 3$$



$$93 > -9r + 3$$

$$-3 \quad -3$$

$$\frac{-9}{-9} > \frac{-9}{-9}$$

$$r > -10$$

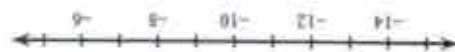
$$2) 11 > \frac{n}{15}$$



$$4) -12 + x \geq -4$$



$$6) n - 5 < -14$$



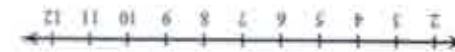
$$8) -13n \geq 143$$



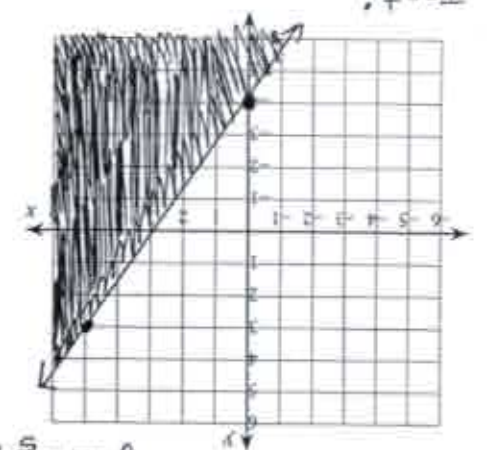
$$10) -3 + \frac{k}{2} > 3$$



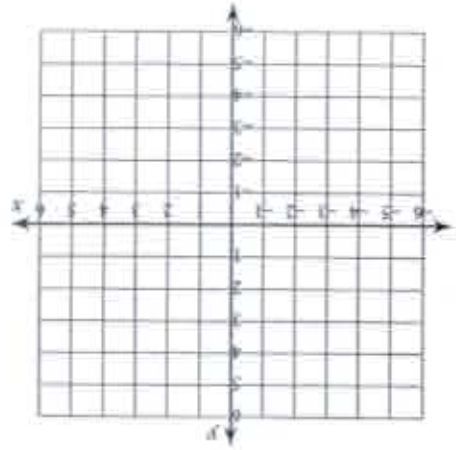
$$12) -4(b+3) < -36$$



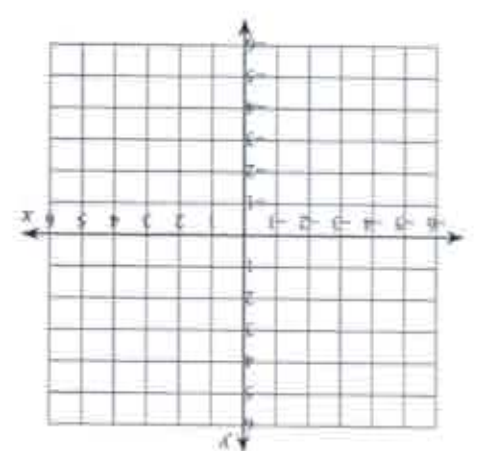
Test:  
 $(4, 0)$   
 $9(4) - 5(0) \geq 20$   
 $36 \geq 0 - 0$



Example  
 $19) 7x - 5y \geq 20$   
 $-\frac{5y}{-5} \geq \frac{-7x + 20}{-5}$   
 $y \leq \frac{7}{5}x - 4$

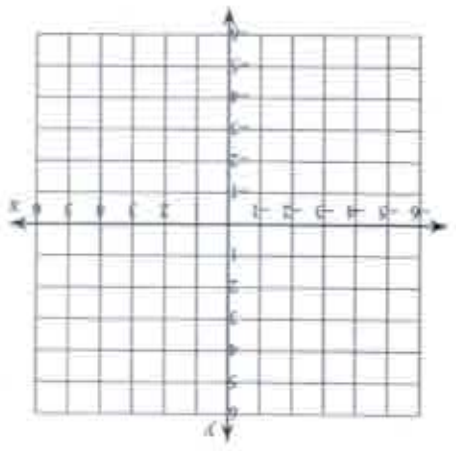


20)  $5x + 3y > 6$



17)  $y \leq -1$

Sketch the graph of each linear inequality.



18)  $y \geq \frac{3}{2}x + 4$



15)  $n \geq 5$

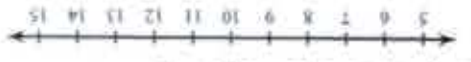
Draw a graph for each inequality.



16)  $b \geq -5$



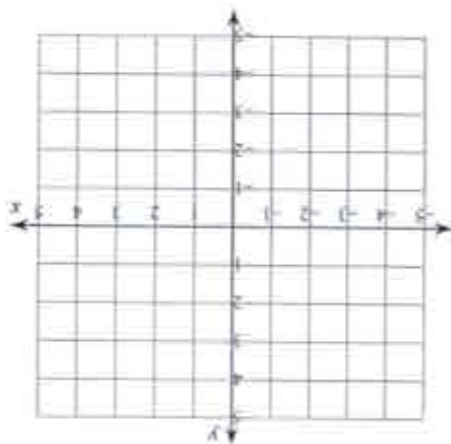
13)  $-315 \leq -5(-1 + 8n)$



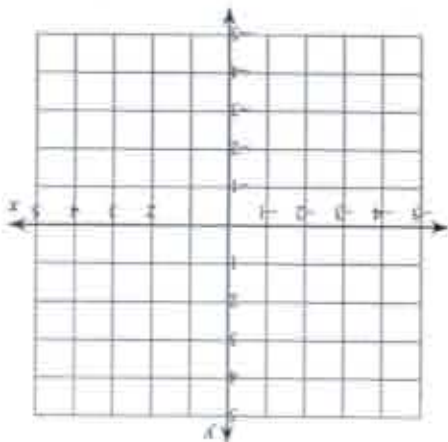
14)  $94 \leq -3(6 - 5p) - 8$

Sketch the solution to each system of inequalities.

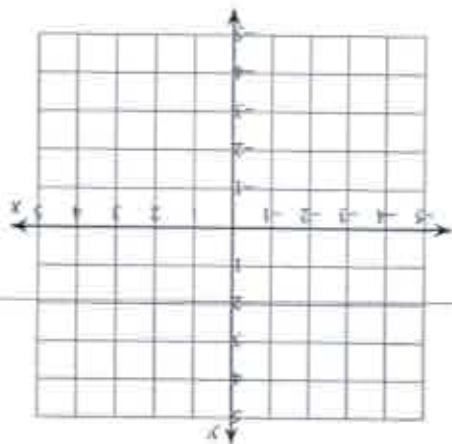
21)  $y \geq -\frac{1}{2}x - 1$   
 $y \geq \frac{1}{2}x - 3$



22)  $y \geq -2x + 3$   
 $y \leq -\frac{3}{2}x - 1$



23)  $2x + 3y < -3$   
 $2x + 3y \geq 3$



24)  $x - 2y \geq 4$   
 $2x - y \geq -1$

