Warm Up 12/4/18

COPY DOWN THE PROBLEMS

1. Sandy paid $52 for 3 adult and 2 child tickets to a play. Kira paid $44 for 1 adult and 4 child tickets to the same play. What is the cost of 2 adult and 1 child ticket?

A. $32.00 **B.** $34.00 **C.** $36.00 **D.** $38.00

x = cost of adult ticket $12.00

y = cost of child ticket $8.00

$$3x + 2y = 52$$
$$-3(x + 4y = 44)$$
$$+\quad \cancel{3x} + 2y = 52$$
$$-\cancel{3x} - 12y = -132$$
$$\frac{-10y}{-10} = \frac{-80}{-10}$$
$$y = \$8.00$$

$$x + 4(8) = 44$$
$$x + 32 = 44$$
$$-32 \quad -32$$
$$x = \$12$$

2. What is the solution for the following system of equations?

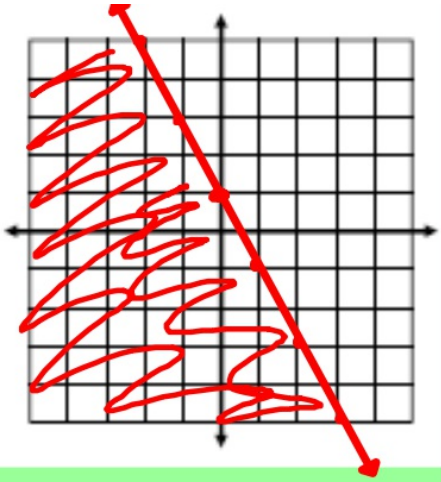
$$-4\begin{cases} x - 3y = -16 \\ 4x + 4y = 0 \end{cases}$$

$$-\cancel{4x} + 12y = 64$$
$$+\quad \cancel{4x} + 4y = 0$$
$$\frac{16y}{16} = \frac{64}{16}$$
$$y = 4$$

$$4x + 4(4) = 0$$
$$4x + 16 = 0$$
$$-16 \quad -16$$
$$\frac{4x}{4} = \frac{-16}{4}$$
$$x = -4$$

$$\boxed{(-4, 4)}$$

1) $y \leq -2x + 1$

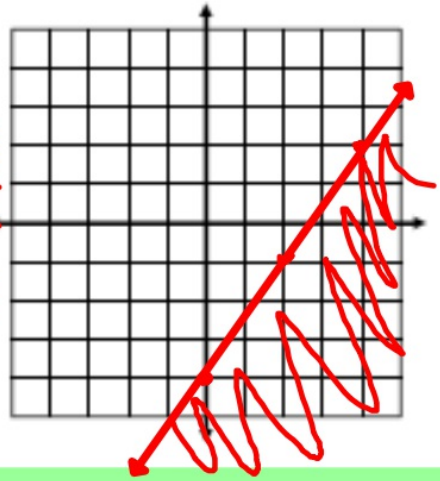


2) $3x - 2y \geq 8$

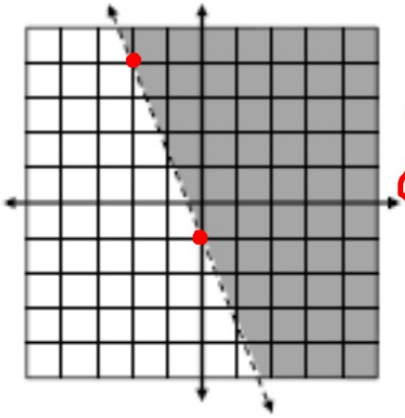
$$-3x \quad -3x$$

$$\frac{-2y}{-2} \geq \frac{-3x}{-2} + \frac{8}{-2}$$

$$y \leq \frac{3}{2}x - 4$$



3)



~~A. $2x + 5y > -5$~~

~~B. $2x - 5y < 5$~~

C. $5x + 2y > -2$

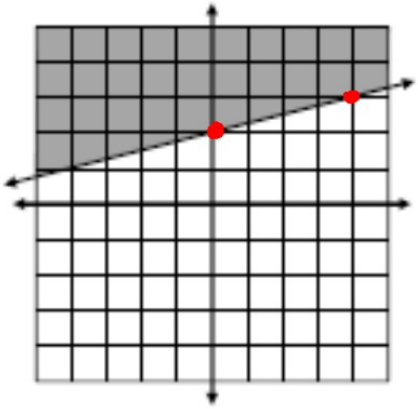
~~D. $5x - 2y < 2$~~

dotted

above

$b = -1$ $m = -\frac{5}{2}$

4)



~~A. $4x + y \geq 2$~~

~~B. $x + 4y \leq 8$~~

~~C. $4x - y \geq -2$~~

D. $x - 4y \leq -8$

solid

above

$b = 2$ $m = \frac{1}{4}$

A **system of inequalities** is **two or more linear inequalities.**

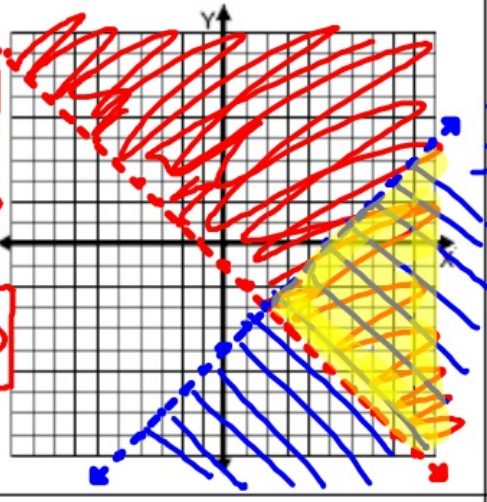
The **solution** to a system of inequalities is the Overlapping region of points that satisfies **both inequalities.**

. $x + y > -1$
$x - y > 5$

$\boxed{y > -x - 1}$

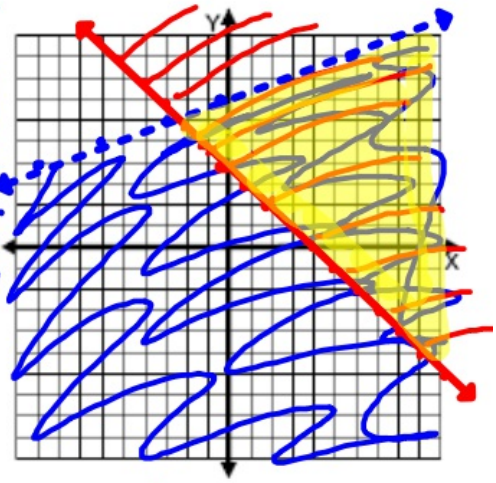
$-y > -x + 5$
$\frac{-y}{-1} > \frac{-x}{-1} + \frac{5}{-1}$

$\boxed{y < x - 5}$

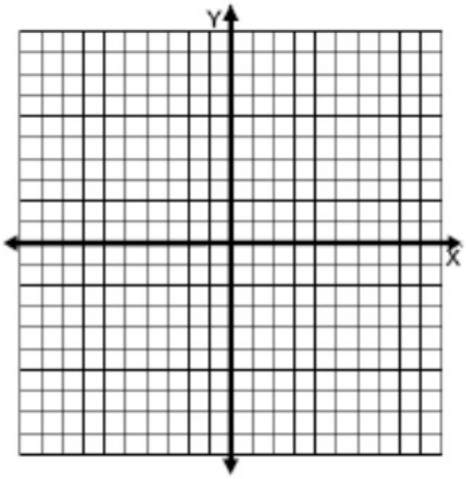


2. $-x + 3y < 21$
$y \geq -x + 4$

$-x + 3y < 21$
$+x \quad +x$
$\frac{3y}{3} < \frac{x}{3} + \frac{21}{3}$
$y < \frac{1}{3}x + 7$



. $x - 4y \leq 24$
$2x - y \geq -1$



4. $x < -4$
$3x + 2y \leq -2$

$-3x \quad -3x$
$\frac{2y}{2} \leq \frac{-3x}{2} - \frac{2}{2}$
$y \leq -\frac{3}{2}x - 1$