Warm Up December 6, 2018

1.) Vincent graphed a linear function. The function has a positive slope and a positive *x*-intercept. Which could be the function that Vincent graphed?

↳ value of x when y=0

~~A.) 5x + 10y = 15~~

B.) 5x - 10y = 15 *

C.) 5x + 10y = -15

D.) 5x - 10y = -15

(A) $5x+10y=15$

$-5x \quad -5x$

$\frac{10y}{10} = \frac{-5x}{10} + \frac{15}{10}$

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

(B) $5x-10y=15$

$-5x \quad -5x$

$\frac{-10y}{-10} = \frac{-5x}{-10} + \frac{15}{-10}$

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

$5x-10y=15$

$5x-10(0)=15$

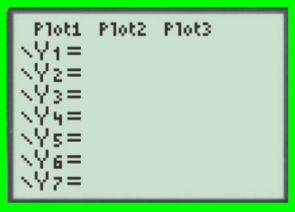
$\frac{5x}{5} = \frac{15}{5}$

$x=3$

↳ x-int! (3,0)

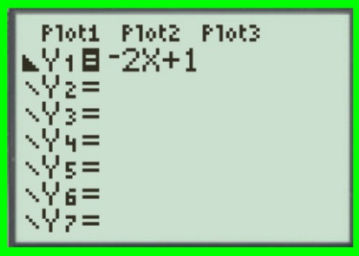
Calculator Steps!

Y=

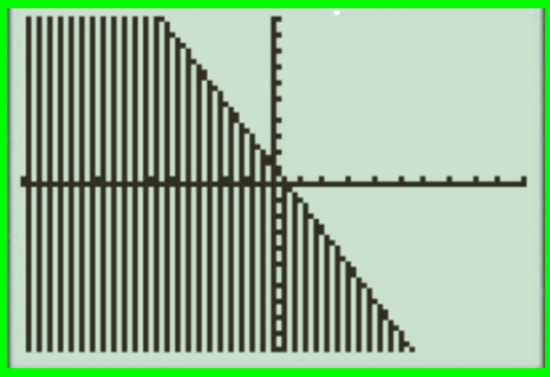


Enter the inequality:

We need to tell the calculator where to shade! Use the left arrow to highlight the diagonal line on the left.

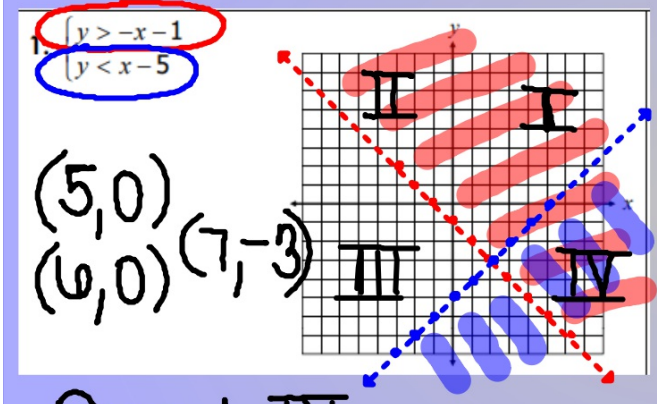


Press enter until the correct triangle is created.
Hint: Shade up or down?



Main Ideas/Questions	Notes/Examples
Systems of Linear Inequalities	*two or more linear inequalities with the same set of unknowns*
SOLUTION to a System of Linear Inequalities	*all coordinate points in the overlapping shaded region*

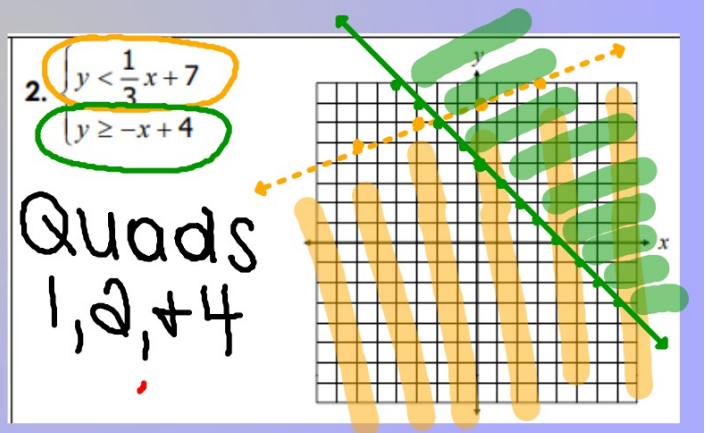
1. $\begin{cases} y > -x - 1 \\ y < x - 5 \end{cases}$



(5,0)
(6,0) (7,-3)

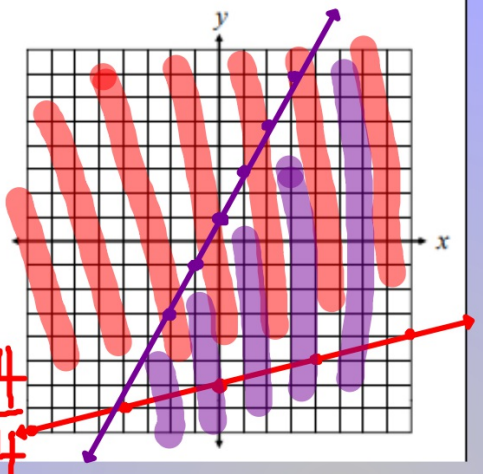
Quad. IV

2. $\begin{cases} y < \frac{1}{3}x + 7 \\ y \geq -x + 4 \end{cases}$



Quads 1, 2, + 4

3. $\begin{cases} x - 4y \le 24 \\ y \le 2x + 1 \end{cases}$



$x - 4y \le 24$
$-x \quad -x$

$\frac{-4y}{-4} \le \frac{-x}{-4} + \frac{24}{-4}$

$y \ge \frac{1}{4}x - 6$

Quads.
1-4

4. $\begin{cases} x < -4 \\ 3x + 2y \le -2 \end{cases}$