

Name: Key

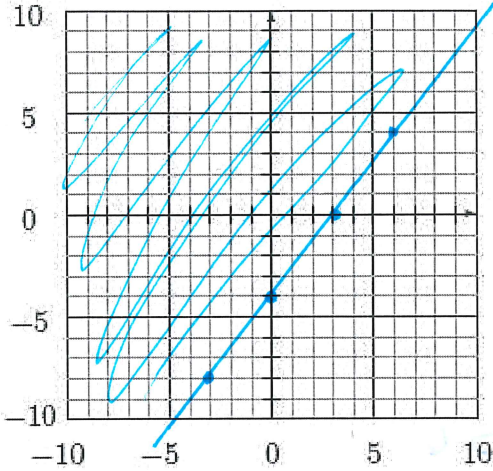
Class: \_\_\_\_\_

Date: F12

Solve each inequality and graph the solution set.

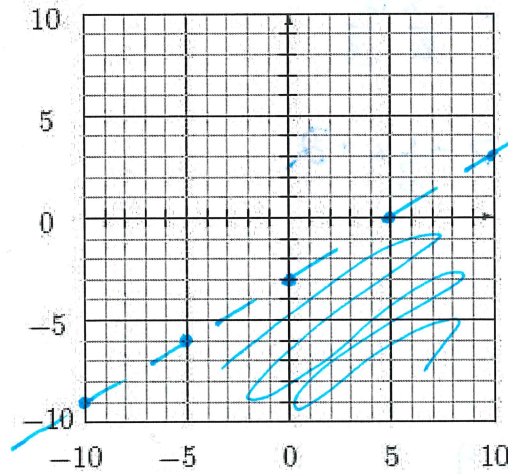
1.  $y \geq \frac{4}{3}x - 4$

1. \_\_\_\_\_



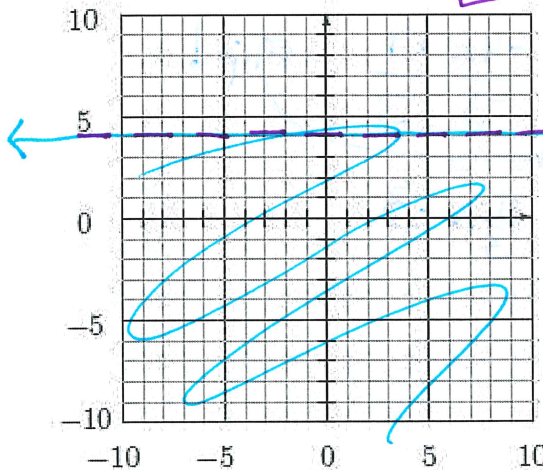
2.  $y < \frac{3}{5}x - 3$

2. \_\_\_\_\_



3.  $y - 4 < 0$

3. \_\_\_\_\_

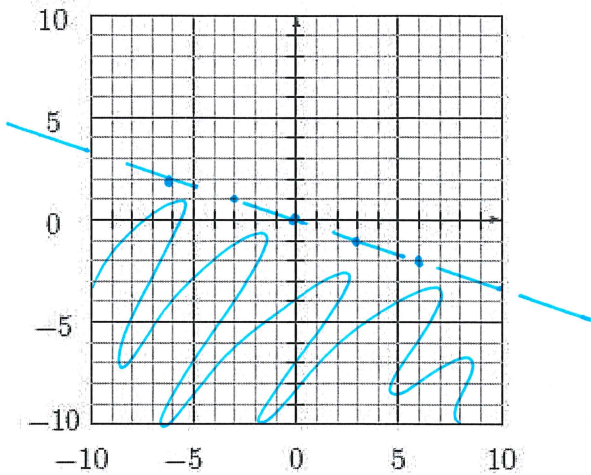


**Dotted Line!**

$$\begin{array}{r} y - 4 < 0 \\ +4 \quad +4 \\ \hline y < 4 \end{array}$$

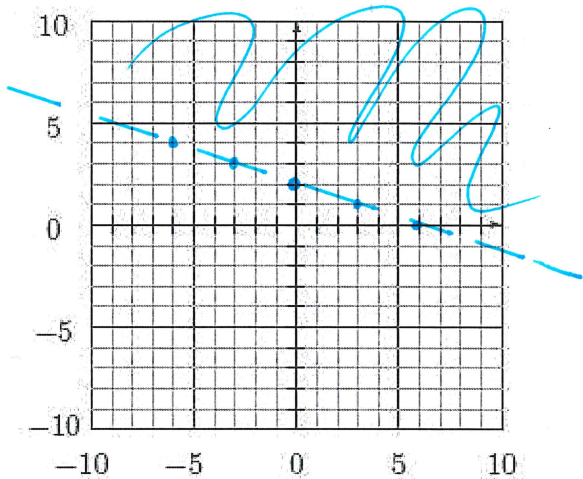
4.  $y < -\frac{1}{3}x$

4. \_\_\_\_\_



5.  $x + 3y > 6$

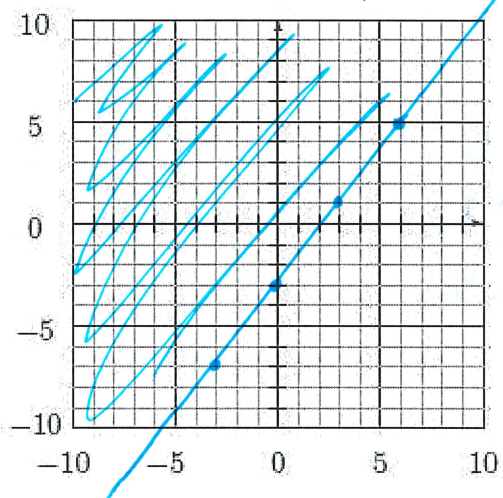
5. \_\_\_\_\_



$$\begin{aligned} x + 3y &> 6 \\ -x & \quad -x \\ \hline 3y &> -x + 6 \\ \frac{3y}{3} &> \frac{-x+6}{3} \\ y &> -\frac{1}{3}x + 2 \end{aligned}$$

6.  $4x - 3y \leq 9$

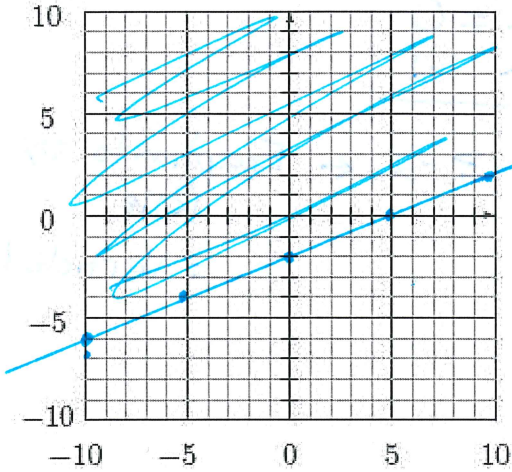
6. \_\_\_\_\_



$$\begin{aligned} 4x - 3y &\leq 9 \\ -4x & \quad -4x \\ \hline -3y &\leq -4x + 9 \\ \frac{-3y}{-3} &\leq \frac{-4x+9}{-3} && \text{Flip!} \\ y &\geq \frac{4}{3}x - 3 \end{aligned}$$

7.  $2x - 5y \leq 10$

7. \_\_\_\_\_



$$2x - 5y \leq 10$$

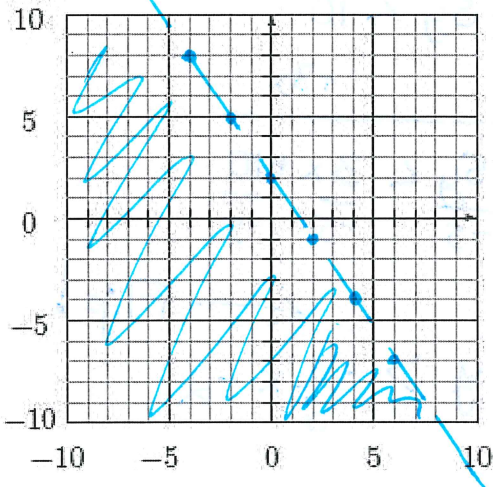
$$\begin{array}{r} -2x \qquad \qquad -2x \\ \hline -5y \leq \frac{-2x + 10}{-5} \end{array}$$

$$\boxed{y \geq \frac{2}{5}x - 2}$$

Flip!

8.  $3x + 2y < 4$

8. \_\_\_\_\_



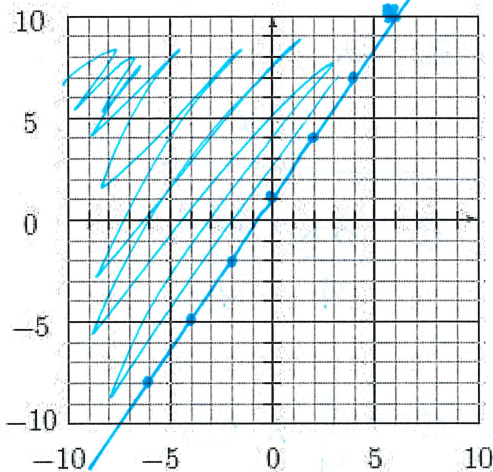
$$3x + 2y < 4$$

$$\begin{array}{r} -3x \qquad \qquad -3x \\ \hline 2y < \frac{-3x + 4}{2} \end{array}$$

$$\boxed{y < -\frac{3}{2}x + 2}$$

9.  $-3x + 2y \geq 2$

9. \_\_\_\_\_



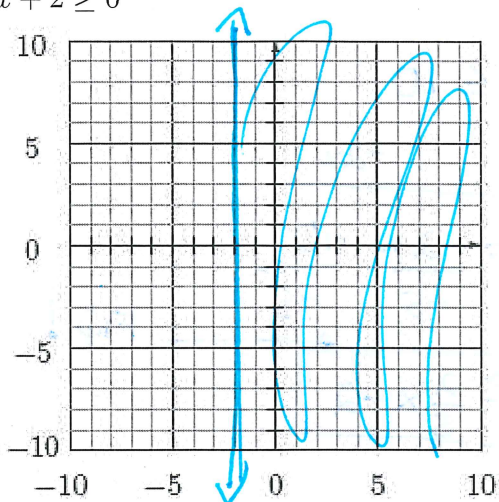
$$-3x + 2y \geq 2$$

$$\begin{array}{r} +3x \qquad \qquad +3x \\ \hline 2y \geq \frac{3x + 2}{2} \end{array}$$

$$\boxed{y \geq \frac{3}{2}x + 1}$$

10.  $x + 2 \geq 0$

10. \_\_\_\_\_

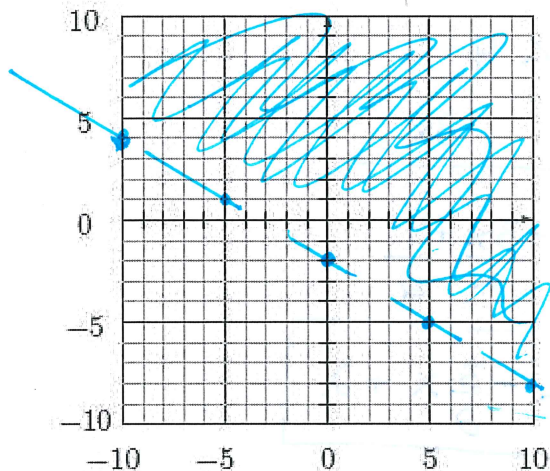


$$\begin{array}{r} x + 2 \geq 0 \\ -2 \quad -2 \\ \hline \end{array}$$

$x \geq -2$  ← Exception to the Rule  
= Vertical Line

11.  $-3x - 5y < 10$

11. \_\_\_\_\_



$$\begin{array}{r} -3x - 5y < 10 \\ +3x \quad \quad +3x \\ \hline \end{array}$$

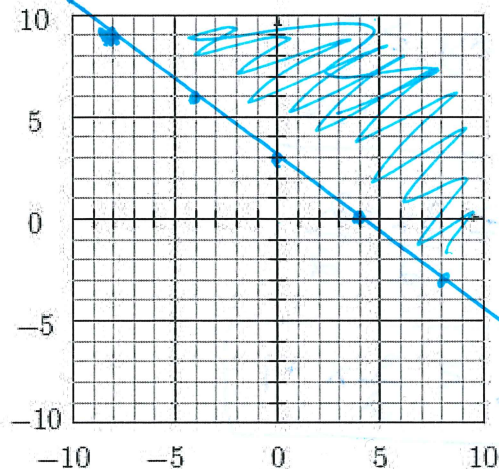
$$\frac{-5y}{-5} < \frac{3x+10}{-5}$$

← Flip!

$$y > -\frac{3}{5}x - 2$$

12.  $3x + 4y \geq 12$

12. \_\_\_\_\_



$$\begin{array}{r} 3x + 4y \geq 12 \\ -3x \quad \quad -3x \\ \hline \end{array}$$

$$\frac{4y}{4} \geq \frac{-3x+12}{4}$$

$$y \geq -\frac{3}{4}x + 3$$