

GRAPHING TO SOLVE LINEAR INEQUALITIES.

- GRAPH THE SYSTEM, DETERMINE OUR POSSIBLE

SOLUTION AND CHECK ITS VALIDITY

$$\text{IE } \textcircled{1} \{ (x, y) \mid \underline{2x + y \leq 1}, \underline{x \in \mathbb{R}}, \underline{y \in \mathbb{R}} \} \text{ SOLID / SHADEN}$$

$$\textcircled{2} \{ (x, y) \mid \underline{2 < x - 2y}, \underline{x \in \mathbb{R}}, \underline{y \in \mathbb{R}} \} \text{ DASHED / SHADEN}$$

SOLR

$$\textcircled{1} \begin{array}{r} 2x + y \leq 1 \\ -2x \end{array} \quad \textcircled{2} \begin{array}{r} 2 < x - 2y \\ +2y \end{array}$$

$$\begin{array}{r} y \leq -2x + 1 \\ 2y + 2 < x \\ -2 \end{array}$$

$$\frac{2y}{2} < \frac{x-2}{2}$$

$$y < \frac{1}{2}x - 1$$

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

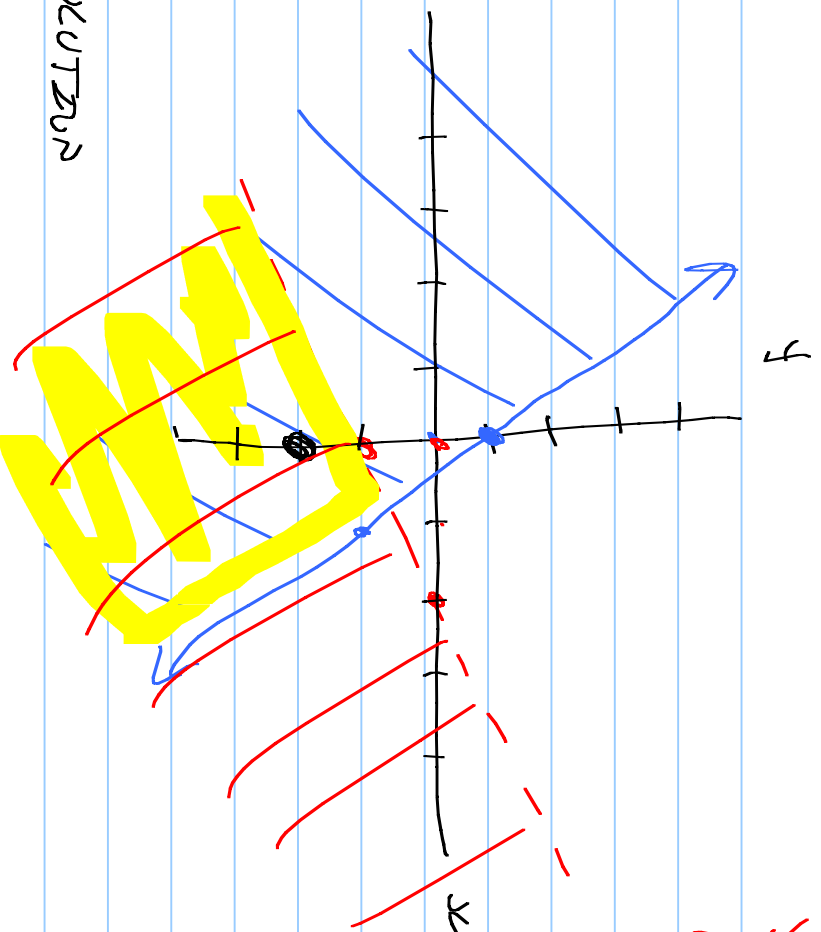
$$y < \frac{1}{2}x - 1$$

$$0 \leq -2(0) + 1$$

$$0 < \frac{1}{2}(0) - 1$$

$$0 \leq 1$$

$$0 < -1$$



POSSIBLE SOLUTION

$$(0, -2)$$

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

$$y < \frac{1}{2}x - 1$$

$$-2 \leq -2(0) + 1$$

$$-2 < \frac{1}{2}(0) - 1$$

$$-2 \leq 1$$

$$-2 < -1$$

THE TEDDY BEARS AND BARBIES, TOTAL OF 500 AVAILABLE
USUALLY SELLS ^{AT LEAST} 3 TIMES AS MANY TEDDY BEARS
AS BARBIES.

A) DEFINE THE VARIABLES AND WRITE A SYSTEM
OF EQUATIONS

B) GRAPH AND GIVE A POSSIBLE SOLUTION.

SOLN A) LET $x = \#$ OF TEDDY BEARS

$y = \#$ OF BARBIES

$$x + y \leq 500$$

3)

y

$$x \leq 3y$$

$$\frac{3y}{3} \geq \frac{x}{3}$$

$$y \geq \frac{1}{3}x$$

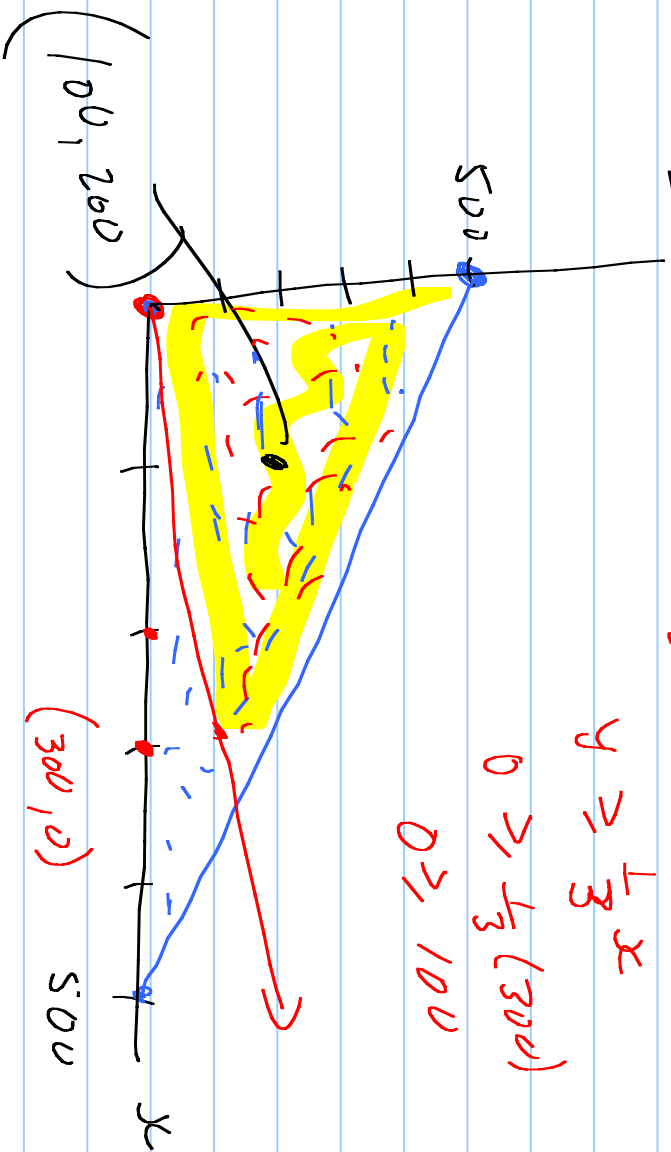
$$0 \geq \frac{1}{3}(300)$$

$$0 \geq 100$$

$$x + y \leq 500$$

$$y \leq -x + 500$$

$$0 \leq -0 + 500$$



HLW

Pu 317
1, 3, 4, 6