

## GRAPHING TO SOLVE SYSTEMS OF LINEAR EQUATIONS

- A SYSTEM IS 2 OR MORE GRAPHS ON THE SAME PLANE (GRAPH)

RECALL:

CONTINUOUS

VS

DISCRETE

- ANY TYPE OF NUMBER PARTICULAR TYPE OF NUMBER

DECIMALS, FRACTIONS ...

AREA IS SHADED AREA IS STIPPED (.....)

# THE GRAPH THE SYSTEM

$$(1) \quad 2x + y \leq 1$$

$$(2) \quad 2 < x - 2y$$

Solve (1)  $2x + y \leq 1$   
 ~~$-2x$~~

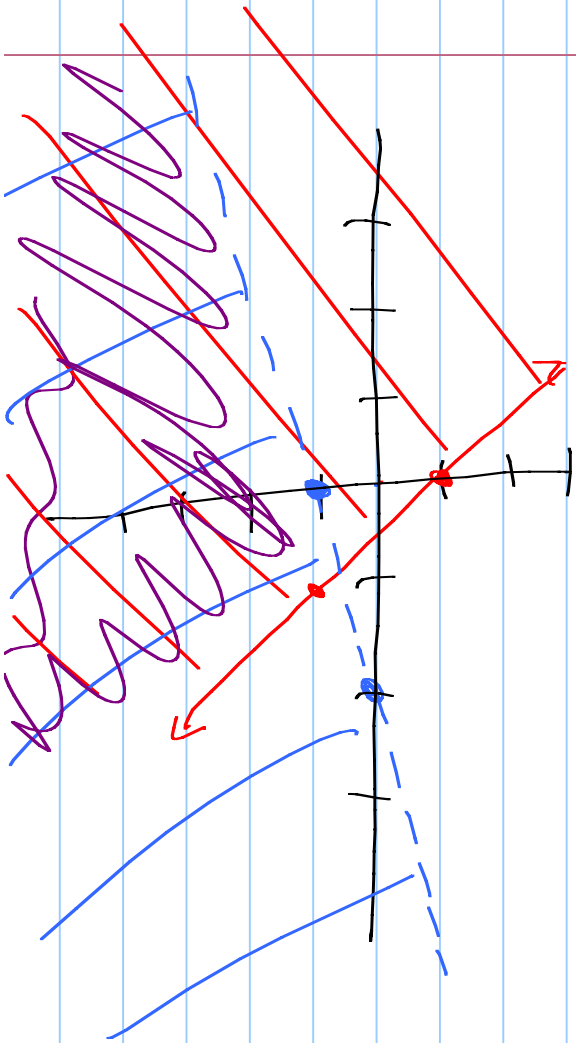
(2)  $2 < x - 2y$   
 ~~$+2y$~~

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

$$2y + 2 < x - 2$$

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

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



IF GRAPH THE SYSTEM, DETERMINE ONE POSSIBLE

SOLUTION AND CHECK ITS VALIDITY

$$A) \{ (x, y) \mid x + y \geq 5, x \in \mathbb{R}, y \in \mathbb{R} \}$$

SOLN  
SHADEN

SET OF  $x$  AND  $y$       SOLUTION THAT ELEMENTS OF NUMBERS

$$B) \{ (x, y) \mid y \leq 4, x \in \mathbb{Z}, y \in \mathbb{Z} \}$$

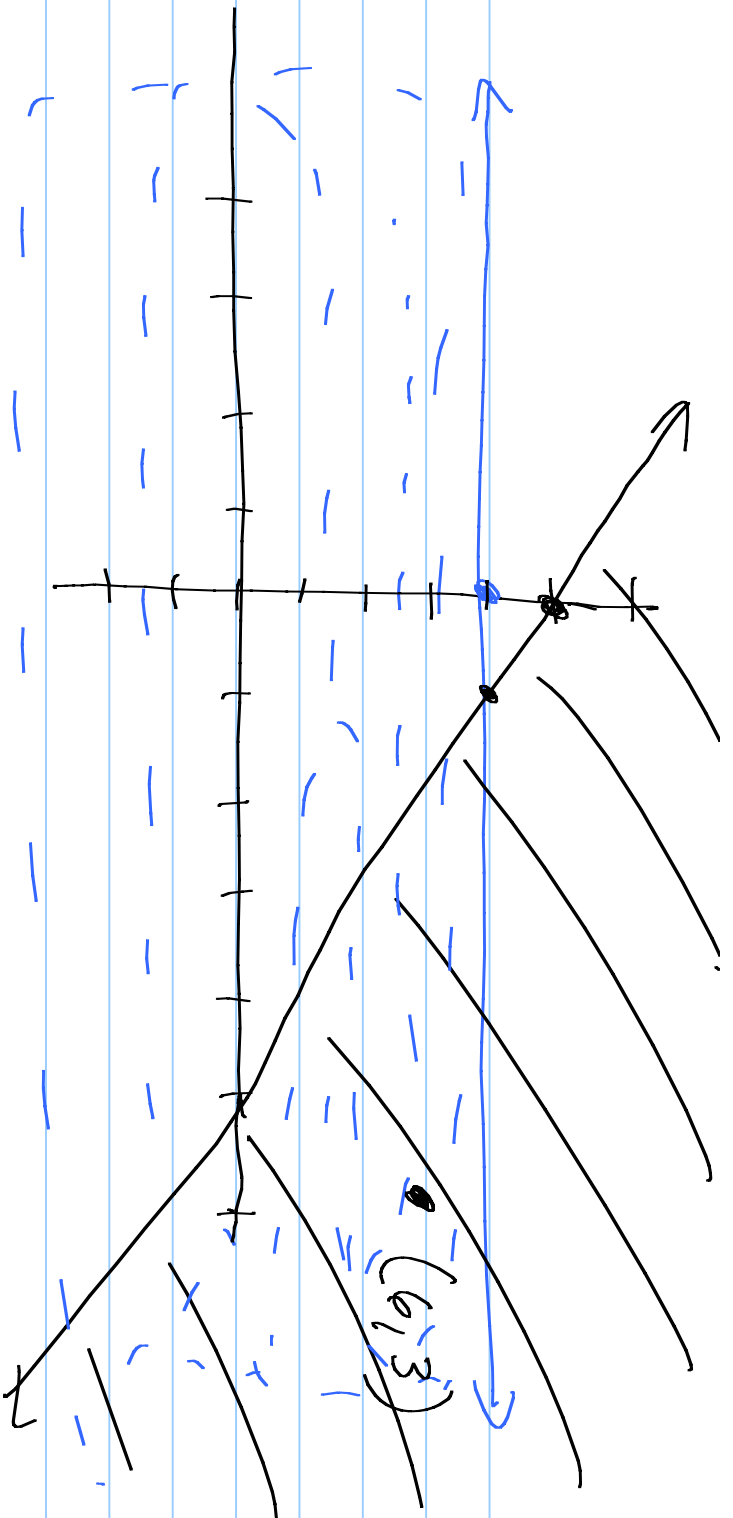
SOLN  
SHADEN

Solve

$$\begin{array}{r} x + y \geq 5 \\ -x \end{array}$$

$$y \leq 4$$

$$y \geq -x + 5$$



CHECK

$$y \geq -x + 5$$

$$y \leq 4$$

H/W

$$3 \geq -6 + 5$$

$$3 \leq 4$$

No. 307

$$3 \geq -1 \quad \checkmark$$

# 1, 2