Date: Oct 29

You need graph paper.

Open your books to page 335.

Learning target #1
You can solve a system of linear equations by graphing.

A system of equations is 2 equations and 2 variables.

The solution to a system of linear equations is where the 2 lines intersect.

Types of solutions:
1. One solution (lines intersect at one point)
2. Infinitely many solutions (same line)
3. No solution (parallel lines)

Solve by graphing. $y=mx+b$

① $-x+y=-4$ $\quad$ $x+y=8$

$+x \quad +x \qquad -x \quad -x$

$\boxed{y=x-4}$

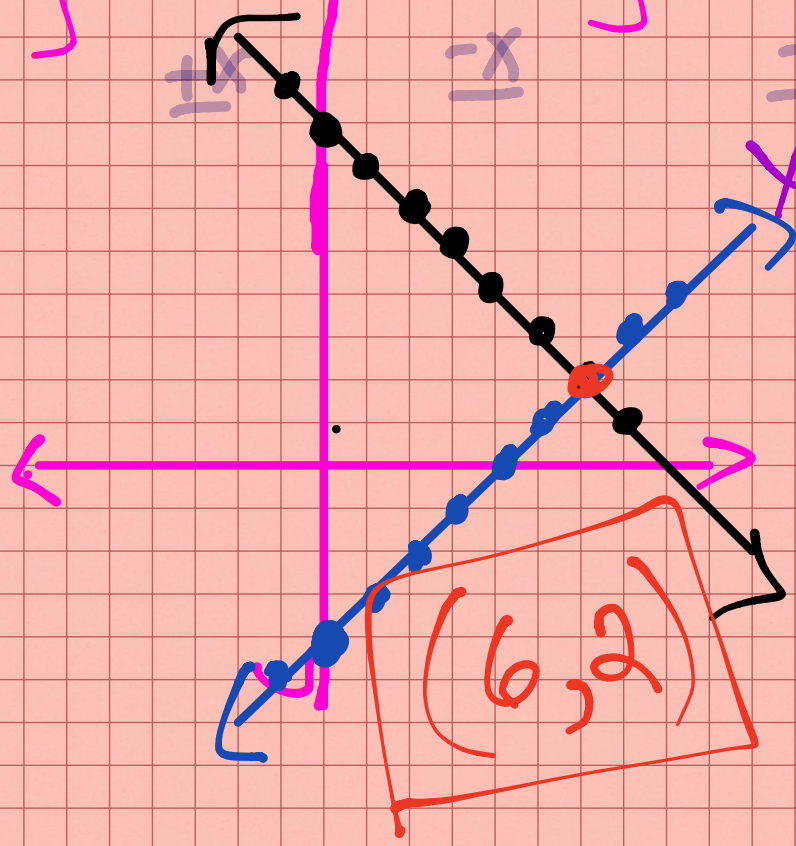
$y=-x+8$

$m=-1$

$b=8$

$m=1$

$b=-4$



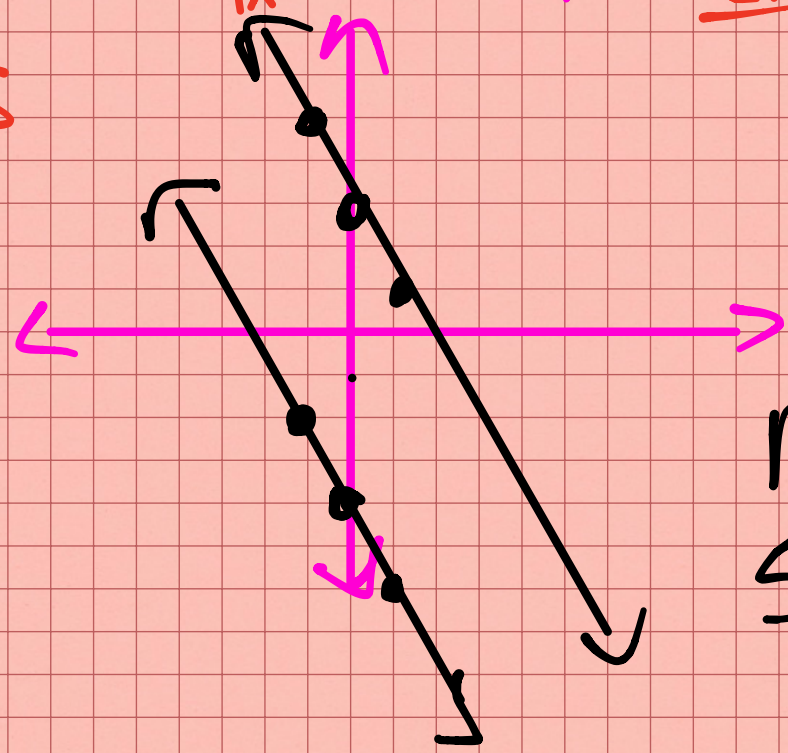
2) $4x+2y=-8$ $\quad$ $y+2x=3$

$-4x \quad -4x \qquad -2x \quad -2x$

$2y=-4x-8$ $\quad$ $y=-2x+3$

$y=-2x-4$

$\frac{}{1}$



no Solution

3) $y = 2x + 3$

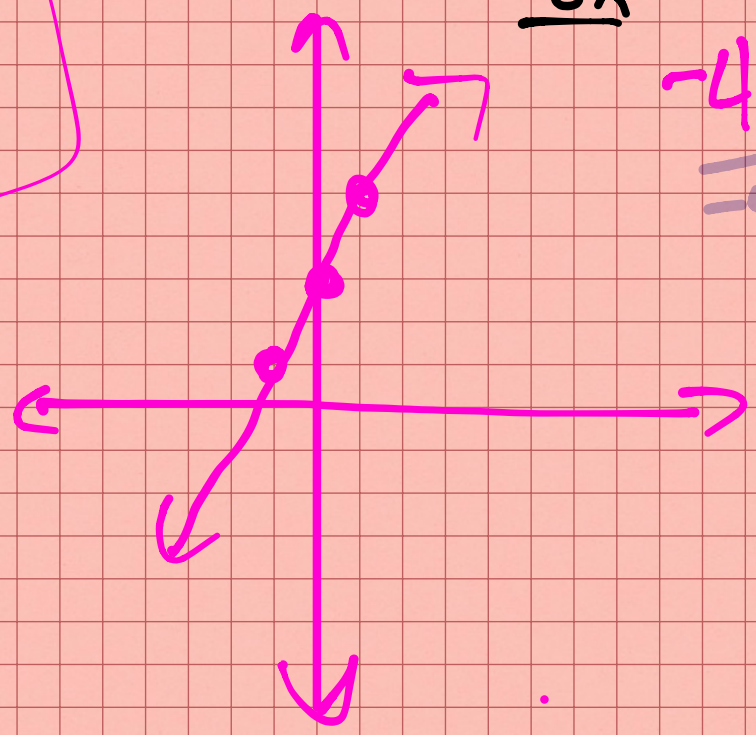
$\boxed{\text{INS}}$

$8x - 4y = -12$

$-8x \qquad -8x$

$\frac{-4y}{-4} = \frac{-8x}{-4} - \frac{12}{-4}$

$y = 2x + 3$



Learning target #2

You can solve a system of equations by substitution.

① $y = -4x + 12$

$2x + y = 2$

$2x - 4x + 12 = 2$

$-2x + 12 = 2$

$\underline{-12} \quad \underline{-12}$

$-2x = -10$

$x = 5$

$y = -4x + 12$

$y = -4(5) + 12$

$y = -20 + 12$

$y = -8$

$\boxed{(5, -8)}$

2) $x - 2y = -3$

$3x + 5y = 24$

$$x - 2y = -3$$
$$\underline{+2y \quad +2y}$$
$$x = 2y - 3$$

$$3(2y-3) + 5y = 24$$
$$6y - 9 + 5y = 24$$
$$11y - 9 = 24$$
$$\underline{+9 \quad +9}$$
$$11y = 33$$
$$y = 3$$

$$x = 2(3) - 3$$
$$x = 6 - 3$$
$$x = 3$$

$$(3, 3)$$

3) $2x+2y=8$

$x+y=-2 \rightarrow x=-y-2$

$2(-y-2)+2y=8$

$\cancel{-2y}-4+\cancel{2y}=8$

$-4=8$

$\boxed{\text{no solution}}$

4) $x - y = 1$

$3x = 3y + 3$

$x = y + 1$

$3(y+1) = 3y + 3$

$3y + 3 = 3y + 3$

$-3y \qquad -3y$

$3 = 3$

$\boxed{\text{IMS}}$

5) $4x+3y=1$

$2x-y=1$

$-2x \qquad -2x$

$-y=-2x+1$

$-1 \qquad -1$

$\boxed{y=2x-1}$

$4x+3(2x-1)=1$

$4x+6x-3=1$

$10x-3=1$

$+3 \quad +3$

$\frac{10x}{10}=\frac{4}{10}$

$\boxed{x=\frac{2}{5}}$

$y=2\left(\frac{2}{5}\right)-1$

$y=\frac{4}{5}-\frac{5}{5}$

$y=-\frac{1}{5}$

$\left(\frac{2}{5}, -\frac{1}{5}\right)$

Assignment

p. 338 (28-34 E)

p. 347 (2-22E)