

Name: _____

Date: Dec 6

Hour: Alg 1

Unit 4 Day 5: Solving a System by Graphing

Focus Question: What does it mean to be a solution to a system and how can I find it?

When you graphed the system on the same coordinate plane and looked for where they intersected, you were "solving the system by graphing."

Symbol to indicate system

Use a graph to solve each system of linear equations. Check your answer.

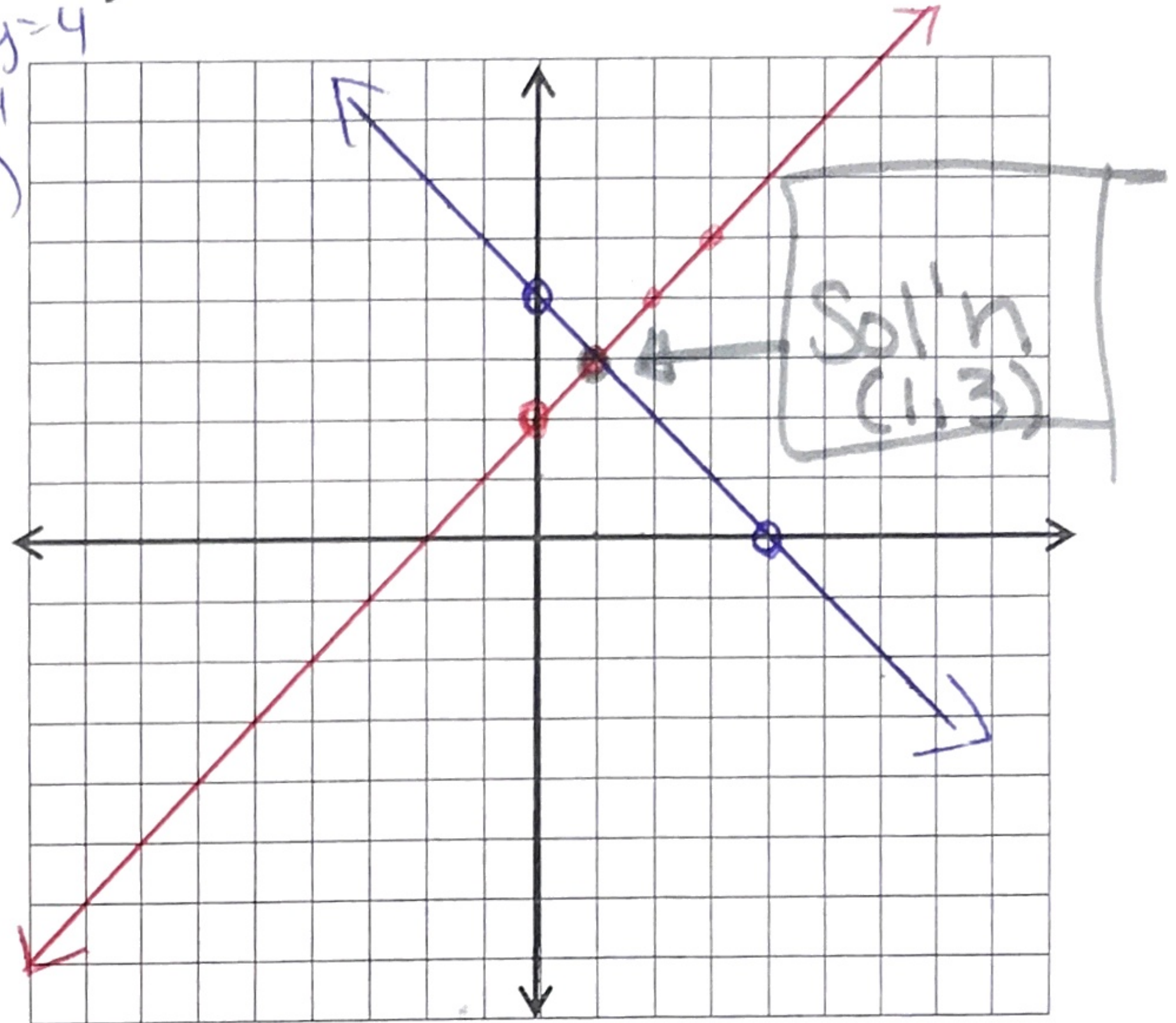
1. $\begin{cases} x + y = 4 \\ y = x + 2 \end{cases}$

x int $x + 0 = 4$ y int $0 + y = 4$
 $x = 4$ $y = 4$
 $(4, 0)$ $(0, 4)$

$m = \frac{1}{1}$

$1 + 3 = 4$
 $4 = 4$
 True

$3 = 1 + 2$
 $3 = 3$
 True



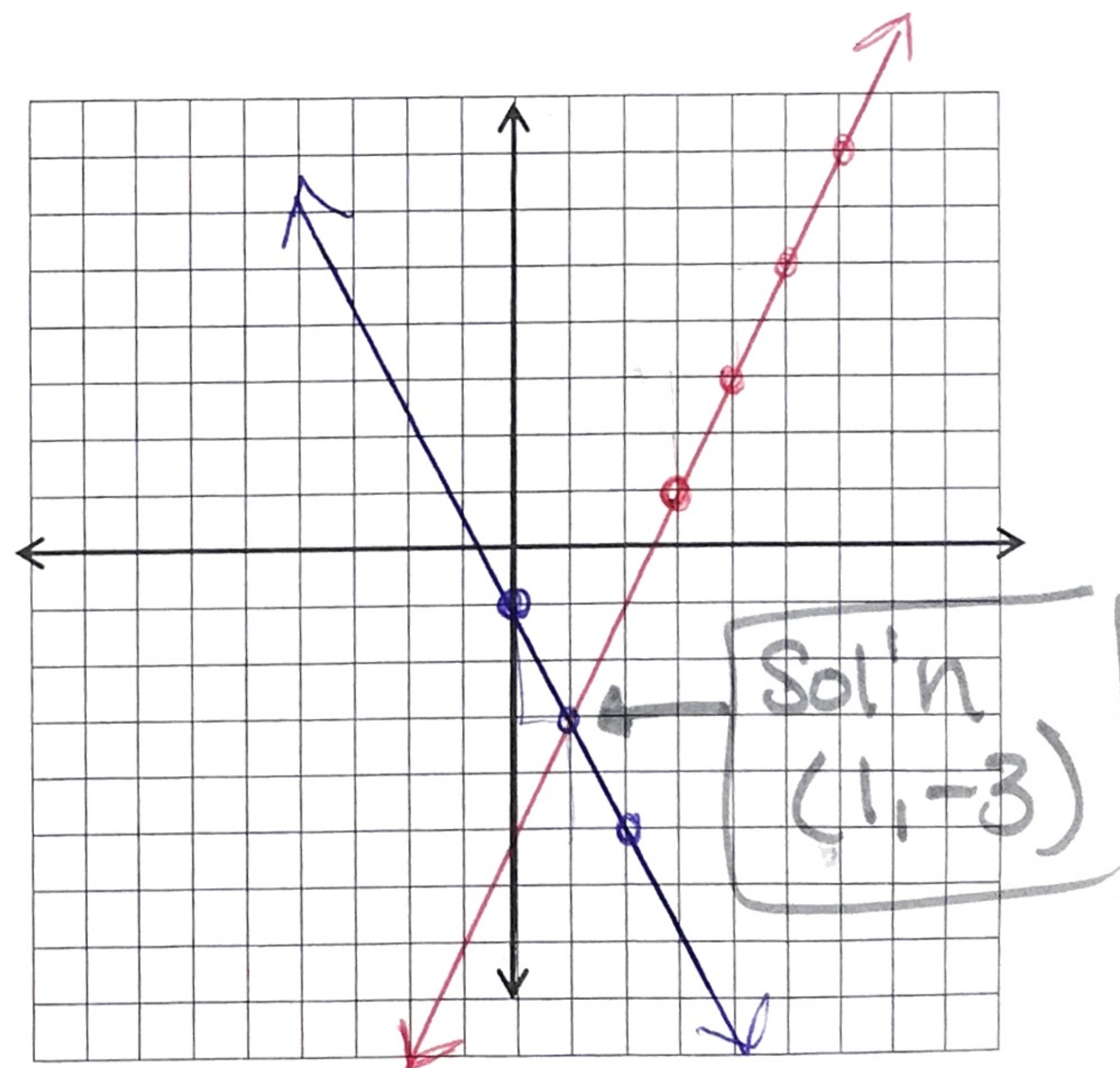
2. $\begin{cases} -2x + y = -1 \\ y - 1 = 2(x - 3) \end{cases}$

int. or isolate y
 $y = -2x - 1$
 $m = \frac{-2}{1}$ int

pt $(3, 1)$ $m = \frac{2}{1}$

$2(1) + -3 = -1$
 $2 + -3 = -1$
 $-1 = -1$
 True

$-3 - 1 = 2(1 - 3)$
 $-4 = 2(-2)$
 $-4 = -4$
 True

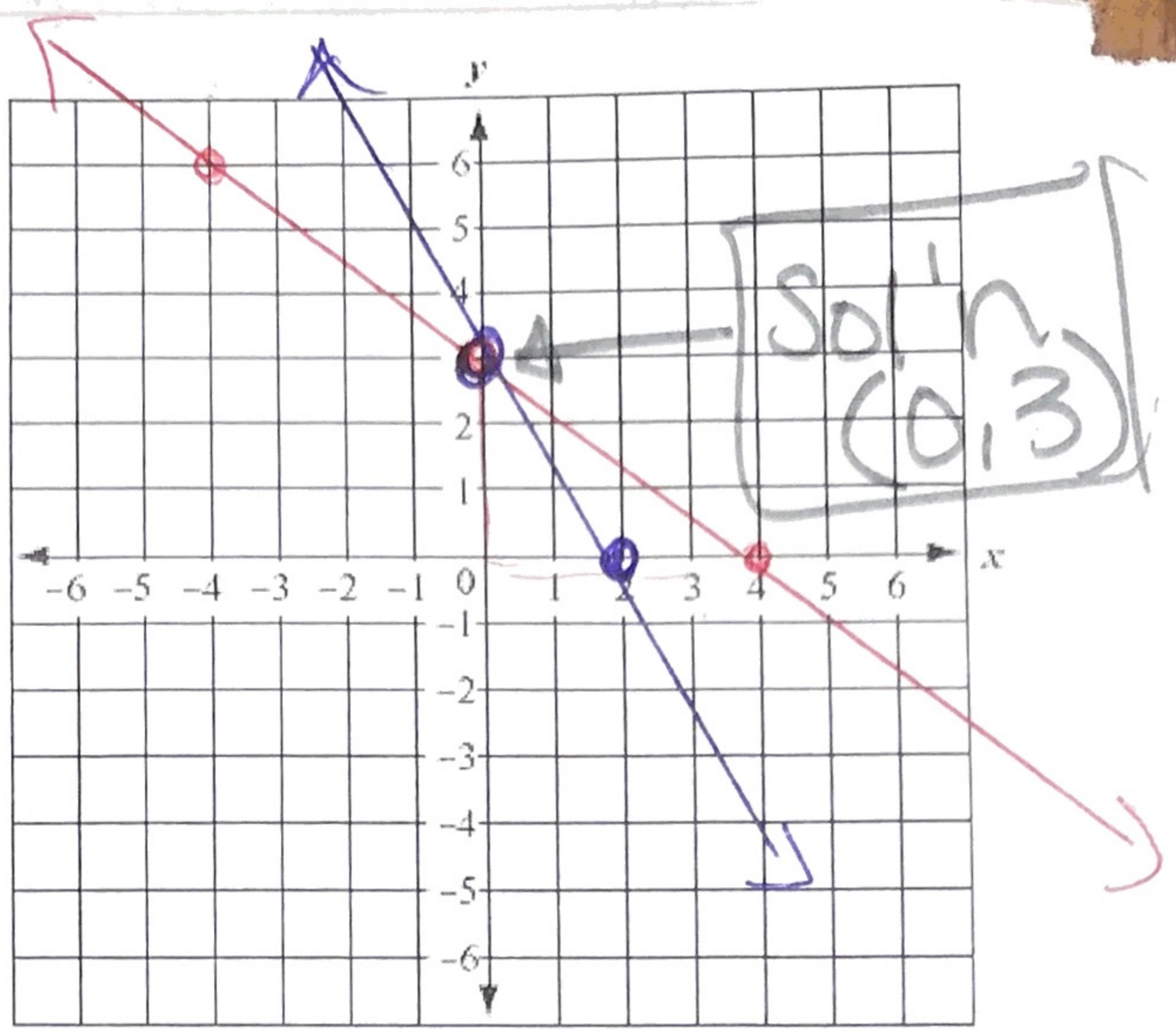


3. $3x + 2y = 6$ and $y = -\frac{3}{4}x + 3$

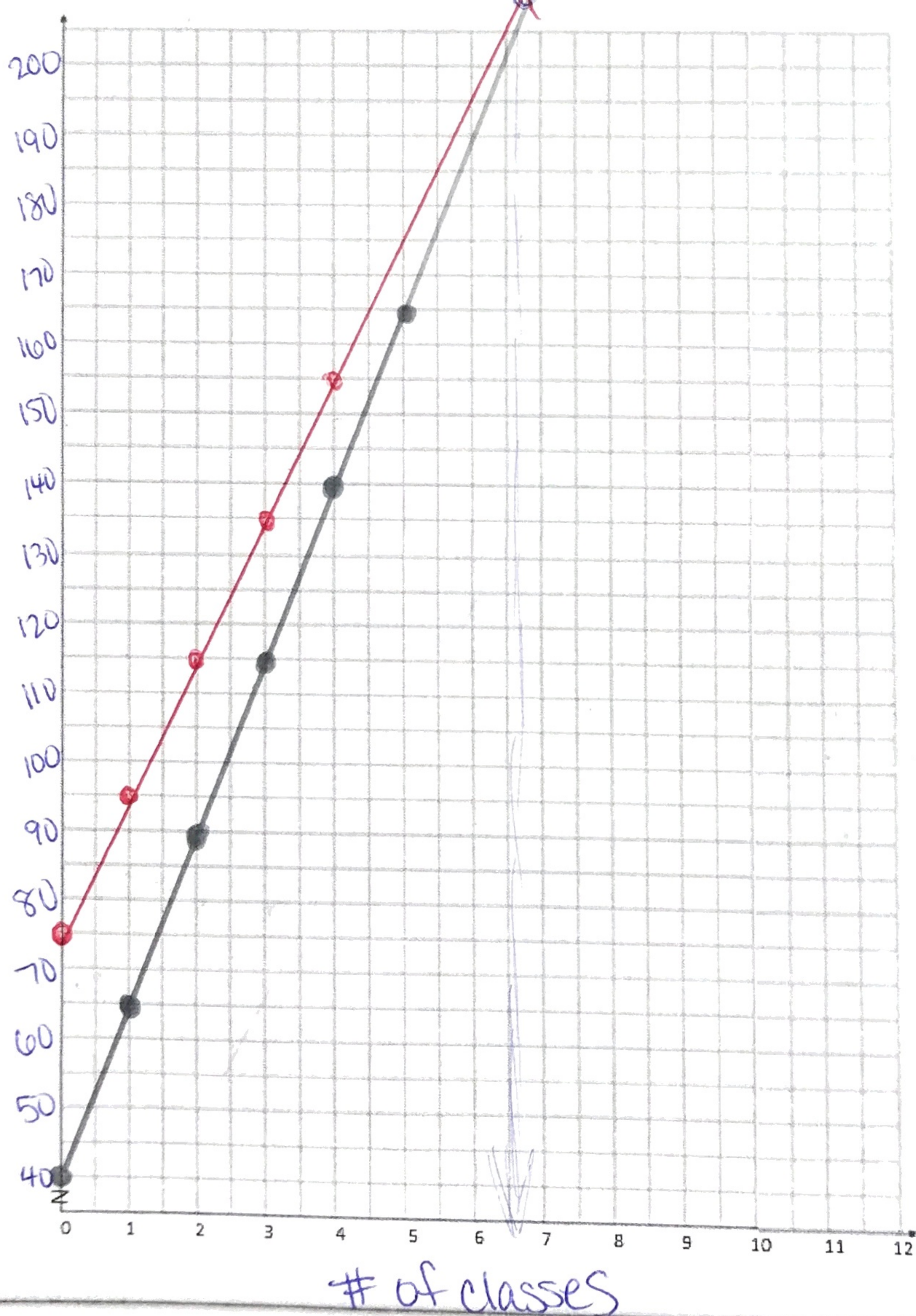
$m = -\frac{3}{4}$

xint
 $\frac{3x + 2(0) = 6}{3} \Rightarrow x = 2$

yint
 $3(0) + \frac{2y}{2} = \frac{6}{2} \Rightarrow y = 3$



4. Kendra is considering enrolling in two acting schools. One school requires a registration fee of \$75 and charges \$20 per class. The other school only requires a registration fee of \$40, but charges \$25 per class. Make a graph to help Kendra decide which school she should choose and when/why.



x : # of classes
 y : total cost

$y_1 = 20x + 75$

$y_2 = 25x + 40$

7 or more classes go with school 1

6 or fewer classes go with school 2