

UNIT 1: Linear Systems

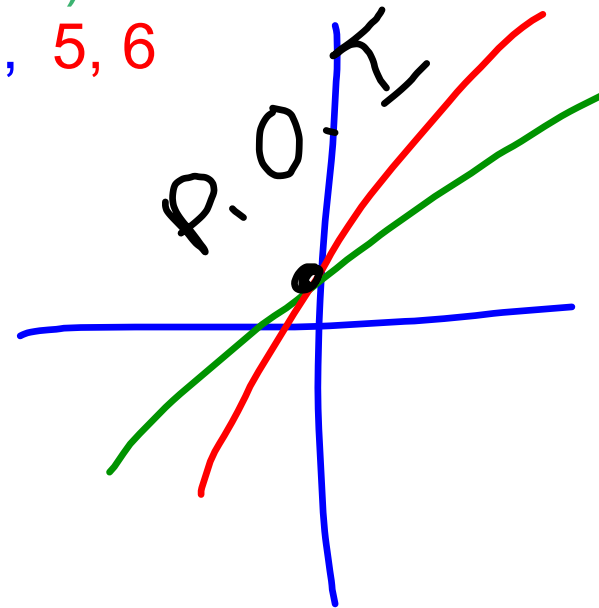
- when 2 or more equations are used to model a problem, it is called a system of equations
- if all the equations are linear, it is called a linear system.

UNIT 1: Linear Systems

1.1 Linear Systems p.46

warm-up...

- read p.48 key ideas, ex1, ex2, and ex3
(and at home make summary notes)
- practice p.50 #1pick1, 2pick1, 4, 5, 6



P. 50 #19

$$x + y = 10$$

$$L.S. = R.S.$$

satisfies eq.

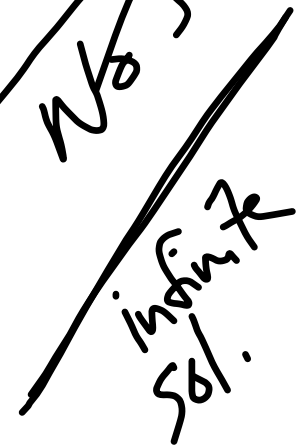
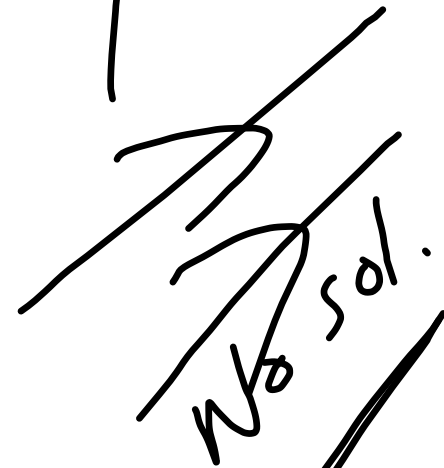
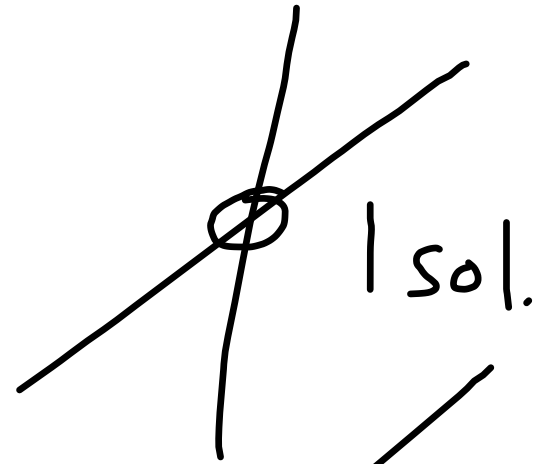
$$\checkmark (1, 9)$$

$$\cancel{(2, -8)}$$

2 p.50
2 a)

$\checkmark (6, 2)$

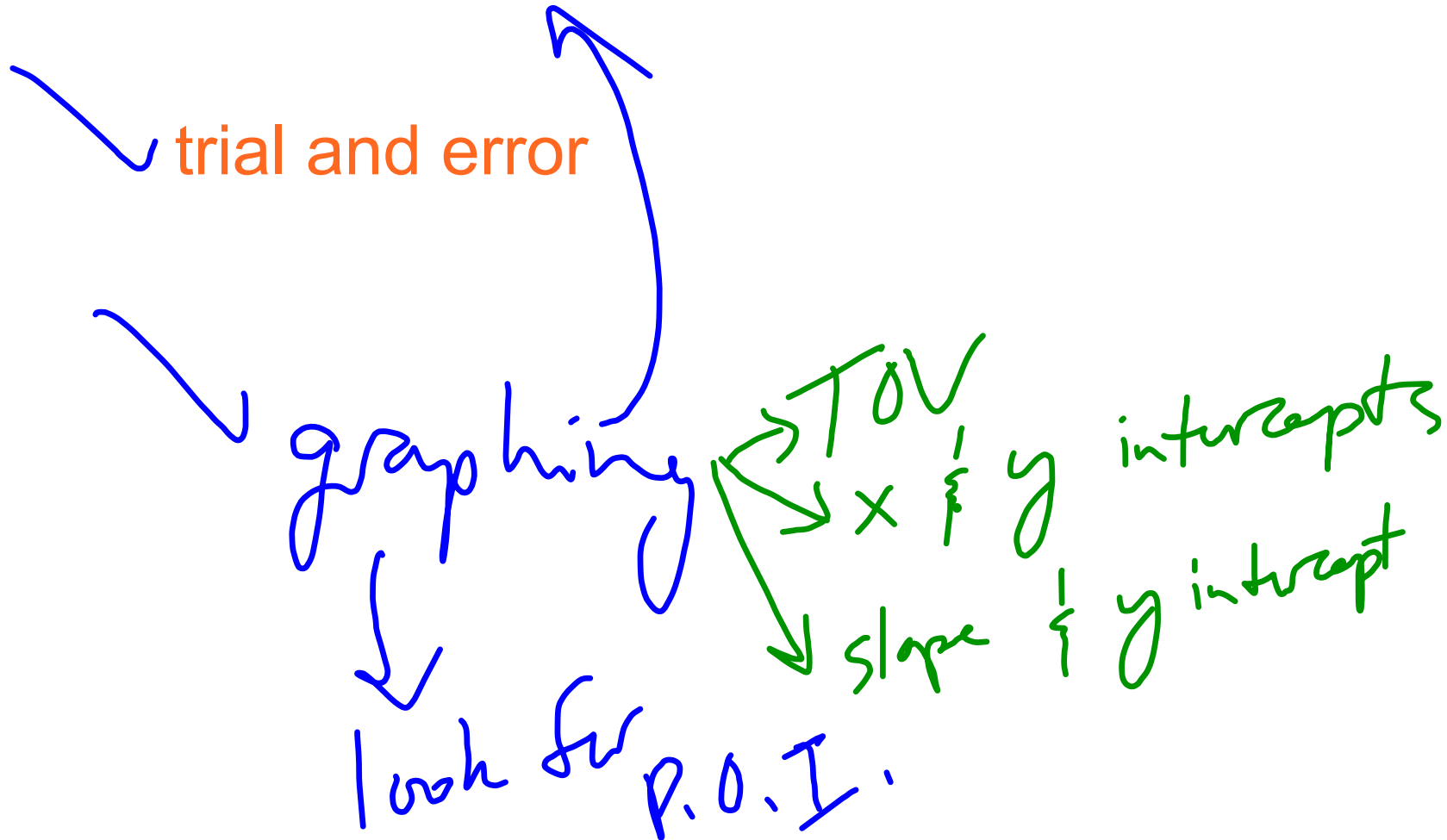
Satisfying both eqs.
Satisfies the system



4b)

$$w + l = 36$$

1.3 Solving Linear Systems p.56



then CHECK if P.O.I

works!

← satisficing system

- 1.3 read key ideas p57
- read examples
- practice work p.60 #1-9odd

p28 #1a

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{8 - 2}{-1 - 5} = \frac{6}{-6} = \textcircled{-1}$$

p28 #5

$$5c) m_1 = \frac{3}{4} \quad m_2 = 0.75 = \frac{3}{4}$$



same

\therefore parallel

P2a
5b)

$$m_1 = -3 \quad m_2 = \frac{1}{3}$$

perpendicular

$$-3 = -\frac{3}{1}$$

$$-1 \left(\frac{1}{-3} \right) = \left(\frac{1}{3} \right)$$

$$\frac{1}{7}, \frac{-7}{1}$$

p2p
#2c)

$$m = 6$$

$y = 6x + b$
passes through $(1, 5)$
Sub in $(1, 5)$ to solve "b"

$$5 = 6(1) + b$$

$$5 = 6 + b$$

$$5 - 6 = b$$

$$b = -1$$

$$\therefore y = 6x - 1$$