7.5 Special Types of Linear Systems

Jan. 29, 2007

Show that the Linear System has No Solution

$3x+y=6$ => equ. 1.

$3x+y=1$ => equ. 2.

Method 1: Check Slopes: Slope-Int form — Solve for y

equ. 1 => $y=-3x+6$

equ. 2 => $y=-3x+1$

Same Slopes

Diff. y-int

=> They are //

Parallel ... There are no Solutions

Show that the Linear System has Infinitely Many Solutions.

$-2x+y=3$ $\Rightarrow$ equ. 1

$-4x+2y=6$ $\Rightarrow$ equ. 2

Method 1: Slope-Int. Solve for y

equ. 1 $\Rightarrow$ $y=2x+3$

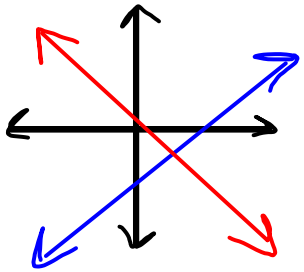
equ. 2 $\Rightarrow$ $y=2x+3$

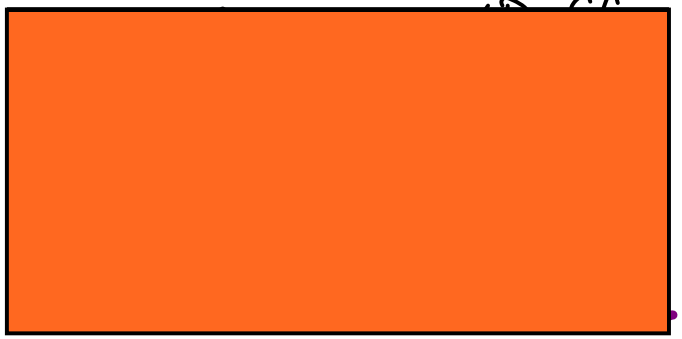
Same equations
same slope & y-int.

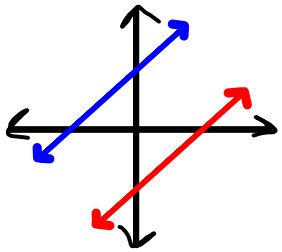
Same Equations... Infinitely Many Solutions

Summary:

3 Types: "Number of Solutions"

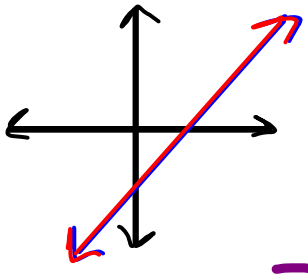






- 2 Equations: w/ Same Slope
  - Diff. y-int.
    - → Parallel Lines

- No Solution



- 2 Equ. w/ Same Slope + Same y-int.
  - → Same Lines / Equations

- Infinitely Many Solutions.

O.T.L.

① Pg 421 : 20-22(all); 24-29 (all)

Solve for y' &

Say 1 Solution
No Solution
∞ Many Solutions

if there is 1 Solution find that Solution!

Chapter test Wednesday