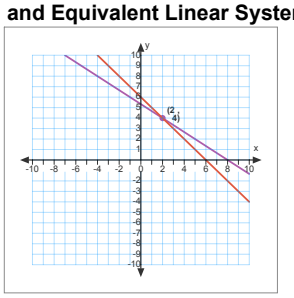
Today's Learning Goal(s):

By the end of the class, I will be able to:

a) Create a practice test to prepare for the unit summative.
(This means you must understand all the topics from this unit, and be able to provide a mathematical example for each. You may use the assigned homework as a guide.)

Reviewing Equivalent Linear Relations and Equivalent Linear Systems



$x+y=6$ ①
$x+2y=10$ ②
$4x-y=4$ ③
$x-2y=-6$ ④

$x+y=6$ ①
①+② $x+2y=10$ ②
[redacted] $x+y=6$ ①
①+④ $x-2y=-6$ ④
[redacted] $4x-y=4$ ③
③-① $x+y=6$ ①
[redacted]

The above are all equivalent linear **systems**.

① $x+y=6$

3 x ①
5 x ①
-2 x ①

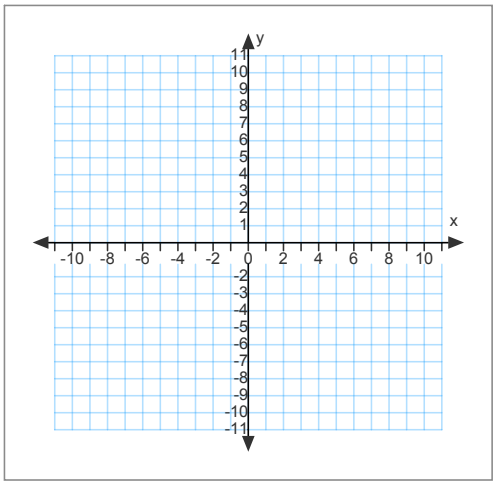
The above are all equivalent linear **equations**.

MPM 2DI 1.R Linear Systems Unit Review Date: _____

A linear system is a set of 2 (or more) lines.
The solution to the system is the Point Of Intersection (P.O.I.) of those lines.

Ex. 1 a) Solve the system by graphing.

$3x+2y+18=0$ ① $y=\frac{1}{4}x-2$ ②



b) Did you remember to state your solution?
(i.e. Identify the coordinates of the point of intersection.)

Ex. 2 Solve the system by substitution, and include a proper check.

$3x-4y=-13$ ①
$2x-y=-12$ ②

Ex. 3 Solve the system by elimination, and include a proper check.

$2x-8y=7$ ①
$5x+6y=-2$ ②

Also:

Translating *phrases* into a algebraic *expressions*,
and translating sentences into algebraic equations.

Equivalent linear relations, and equivalent linear systems (from slide 1)

Solving linear system word problems: money, mixture and motion.

Today's Practice

EXIT CARDS:

p.49 #14, 15, 16: define variables and the system – BUT DON'T SOLVE

In your notebook:

pp. 48-49 #1, 2, 4d (use substitution), 8,
9d (use elimination+show a check), 10b, 12d, 13

Fri. Sept.16 p.47 #9, 10, 13, 14 // Mon. Sept. 19 p.47 17, 8

p.47 #10

Let x represent the volume of 30% solution needed, in ml

Let y 60% solution needed, in ml.

Needs 10 L of 42% solution.

p.46 #

Let p represent the speed of the plane in km/h

Let w represent the wind speed in km/h.

Method	Distance	Speed	Time
tailwind	3000	= p + w	× 5
headwind	3000	= p - w	× 6
Totals:			

$3000 = (p+w)5$

$= 5(p+w)$

$3000 = 5p + 5w$

$3000 = (p-w)6$

$3000 = 6p - 6w$

p.47 #17 $d = st$

Let *b* represent the "best" cruise speed in km/h.

Let *e* represent the "economy" cruise speed in km/h.

$2b + 3e = 850$

$3b + 2e = 900$

$\times 3$

$6b + 9e = 2550$

$\times(-2)$

$-6b - 4e = -1800$

$5e = 750$

$e = 150$

Sub in ①

$2b + 3(150) = 850$

$2b + 450 = 850$

$2b = 850 - 450$

$2b = 400$

$b = 200$

∴ the best cruise speed is 200 km/h, and the economy speed is 150 km/h.

p. 46 #7

Let r represent his rowing speed in km/h.

c the speed of the current in km/h.

Method	Distance	Speed	Time
downstream	10		
upstream	8		
Totals:			