M10 - 9.0 - Sub, Elim, Graph Review

Substitution

① $y = (x + 1)$ ② $(y) = 2x - 2$

$(y) = 2x - 2$

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

$1 = x - 2$

$x = 3$

$y = x + 1$

$y = 3 + 1$

$y = 4$

(x, y)

$(3,4)$ ✓

Transitive Property

$a = b \quad b = c$

$a = c$

Substitution:
Isolate
Substitute
Solve
Substitute
Solve
Intersection

Elimination

① $y = x + 1$ ② $y = 2x - 2$

$y = 2x - 2$

$-\ (y = x + 1)$

$0 = x - 3$

$x = 3$

$y = x + 1$

$y = 3 + 1$

$y = 4$

$(3,4)$ ✓

The goal is zero!

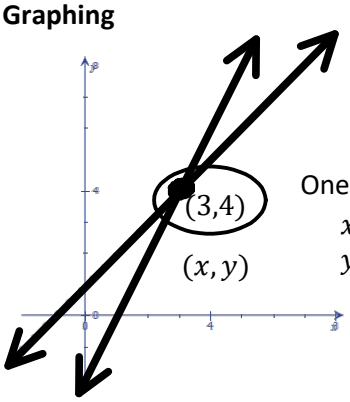
② − ① $y - y = 0$

Brackets around Bottom

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

Elimination:
Get rid of the fractions
Multiply (LCD)
Line up the terms
Add or subtract
Solve
Substitute
Solve
Intersection

Graphing



One Solution
$x = 3$
$y = 4$

No Solution	Infinite
$\# \neq \#$	$\# = \#$
Same Slopes *Different* $y - int's$	*Same Slopes* *Same* $y - int's$ *(Same Line)*

Check Your Answer (x, y) $(3,4)$

① $y = x + 1$
$(4) = (3) + 1$
$4 = 4$ ✓

② $y = 2x - 2$
$(4) = 2(3) - 2$
$4 = 6 - 2$
$4 = 4$ ✓

On the Line

x	y
3	4

On the Line

x	y
3	4

On both Lines. Must be Intersection

If not on both lines then Not Intersection

Word Problems

Slope intercept form is for one multiplication and an addition. **Negatives!**

$\$50/hr$
$\$1000$ *Rent*

let $h = \#hours$
let $m = money$

$m = 50h - 1000$ ✓

$y = mx + b$

Burgers $\$3/each$
Fries $\$2/each$
$\$12$ *to spend*

General form is for two multiplications.

let $b = burgers$
let $f = fries$

$3b + 2f = 12$ ✓

$Ax + By = C$

$3b + 2f = 12$
$2f = -3b + 12$
$f = -\frac{3}{2}b + 6$