3.2 – "Solving Equations: PART DEUX!"

STEPS: 1) Move everything containing a variable to one side of the equation
everything containing just a number to the other side of the equation.

** DON'T FORGET to **CHANGE the SIGNS** of the terms you move

2) Simplify each side using algebra rules.

3) Solve the equation for your variable.

4) Check solutions. To **CHECK** your solutions, use **LS/RS proof**

Ex.1) Solve algebraically.

a) $3x + 2 = 2x - 4$

$3x - 2x = -4 - 2$

$x = -6$

LS	RS
$3x+2$	$2x-4$
$3(-6)+2$	$2(-6)-4$
$-18+2$	$-12-4$
-16	-16

LS = RS

$x = -6$

b) $7 - 2k = 8 - 5k$

$-2k + 5k = 8 - 7$

$3k = 1$

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

LS	RS
$7-2k$	$8-5k$
$7-2(\frac{1}{3})$	$8-5(\frac{1}{3})$
$\frac{21-2}{3}$	$\frac{24}{3}-\frac{5}{3}$
$\frac{19}{3}$	$\frac{19}{3}$

LS = RS

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

c) $-13m + 5 - 2m = 4 + 8m + 24$

$-13m - 2m - 8m = 4 + 24 - 5$

$-23m = 23$

$m = \frac{23}{-23}$

$m = -1$

LS	RS
$-13m+5-2m$	$4+8m+24$
$13+5+2$	
20	

"Solving Equations with BRACKETS"

STEPS: 1) Multiply the brackets using the **distributive property**.

2) Move everything containing a variable to one side of the equation
everything containing just a number to the other side of the equation.

** DON'T FORGET to **CHANGE the SIGNS** of the terms you move

3) Simplify each side using algebra rules.

4) Solve the equation for your variable.

5) Check solutions. To **CHECK** your solutions, use **LS/RS proof**

Ex. 2) Find the root of the equation and check.

a) $4(x-3) = -32$

$4x - 12 = -32$

$4x = -20$

$\frac{4x}{4} = \frac{-20}{4}$

$x = -5$

LS	RS
$4(x-3)$	-32
$4(-5-3)$	
$4(-8)$	
-32	

LS = RS

$x = -5$

b) $5(y-3) - (y-2) = 19$

$5y - 15 - y + 2 = 19$

$4y - 13 = 19$

$4y = 19 + 13$

$4y = 32$

$y = 8$

LS	RS
$5(y-3)-(y-2)$	19
$5(8-3)-(8-2)$	
$5(5)-6$	
$25-6$	
19	

LS = RS

$\therefore y = 8$

c) $2(x-3) = -3(x+5) - 6$

$2x - 6 = -3x - 15 - 6$

$2x + 3x = -21 + 6$

$5x = -15$

$x = -3$

LS	RS
$2(x-3)$	$-3(x+5)-6$
$2(-3-3)$	$-3(-3+5)-6$
$2(-6)$	$-3(2)-6$
-12	$-6-6$
	-12

LS = RS

$x = -3$