SOLVING EQUATIONS

-TWO TERMS ON OPPOSITE SIDES

* IF THERE ARE VARIABLES ON BOTH SIDES OF THE EQUAL SIGN, YOU MUST COMBINE THE VARIABLES BY MOVING ONE VARIABLE ACROSS THE EQUAL SIGN TO COMBINE THE TERMS.

EXAMPLE 1

$9x + 9 = 4x - 1$

$-4x \quad -4x$

$5x + 9 = -1$

$-9 \quad -9$

$\frac{5x}{5} = \frac{-10}{5}$

$x = -2$

- TWO SETS OF "x's"
- MOVE THE ENTIRE 4x TO JOIN THE 9x BY EITHER ADDING OR SUBTRACTING (OPPOSITE!)
- → NOW SOLVE!

EXAMPLE 2

$-4 - 5x = 5 - 2x$

$+2x \quad +2x$

$-4 - 3x = 5$

$+4 \quad +4$

$\frac{-3x}{-3} = \frac{9}{-3}$

$x = -3$

→ AGAIN! TWO SETS OF "x" GET THE "x's" TOGETHER BEFORE SOLVING

→ ONCE YOU HAVE ONLY 1 X YOU SOLVE LIKE NORMAL

EXAMPLE 3

$5(7x+3) = 271 + 3x$

$35x + 15 = 271 + 3x$

$-3x \qquad -3x$

$32x + 15 = 271$

$-15 \quad -15$

$\frac{32x}{32} = \frac{256}{32}$

$x = 8$

* IDENTIFY WHAT IS IN EQUATION
① - DISTRIBUTE
② - GET Xs TOGETHER
③ - SOLVE

→ * SUBTRACT THE WHOLE 3X TERM TO COMBINE WITH 35X

→ * SUBTRACT 15 FROM BOTH SIDES

→ * DIVIDE BY 32.