UNIT 1 LESSON 4

SOLVING LINEAR INEQUALITIES

**To solve an inequality you do as you would when you solve regular equations.

THINGS TO REMEMBER…

*Isolate the variable from the constants.

*Reverse the inequality sign when multiplying or dividing with negative numbers.

EX #1) Solve the inequality $\frac{-3x-4}{7} > 5$

7 * $(\frac{-3x-4}{7})$ > 5 * 7

-3x – 4 > 35

-3x > 39

x < -13 Reverse the inequality sign since we divided by negative number

EX #2) Solve the inequality $5x + 4 \geq 11 - 2x$

5x + 2x + 4 ≥ 11

7x + 4 ≥ 11

7x ≥ 7

x ≥ 1 The sign IS NOT REVERSED

EX #3) Juan has no more than $50 to spend at the mall. He wants to buy a pair of jeans and some juice. If the sales tax on the jeans is 4% and the juice with tax costs $2, what is the maximum price of jeans Juan can afford?

x = pair of jeans

0.04x = sales tax on jeans

x + 0.04x + 2 ≤ 50

1.04x + 2 ≤ 50

1.04x ≤ 48

x ≤ 46.15 Maximum price of jeans he can afford is $46.15

YOU TRY!!

EX #4) Solve the inequality

$$-2(x + 3) < 10$$

EX #5) Alexis is saving to buy a laptop that costs $1,100. So far she has saved $400. She makes $12 an hour babysitting. What's the least number of hours she needs to work in order to reach her goal?