SOLVING INEQUALITIES USING ADDITION/SUBTRACTION

$x+3=7$ $\quad -3\ -3$ $\quad x=4$

$x+3\geq 7$ $\quad -3\ -3$ $\quad x\geq 4$

GRAPHING INEQUALITIES

X < # - OPEN CIRCLE, SHADE LEFT

X > # - OPEN CIRCLE, SHADE RIGHT

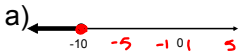
X ≤ # - CLOSED CIRCLE, SHADE LEFT

X ≥ # - CLOSED CIRCLE, SHADE RIGHT

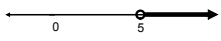
Note: equivalent inequalities - have the same solutions

ex.) x < 2 and x + 4 < 6

I. Given a graph, write the inequality

a) 

$x\leq -10$

b) 

$x>5$

c) 

$x\geq -3$

d) 

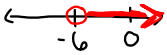
$x<50$

II. Given an inequality, solve and graph

a) $-4<2+y$

$-2\ \ -2$

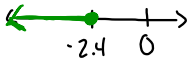
$-6<y$



b) $d-3.8\leq -6.2$

$+3.8\ \ +3.8$

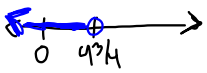
$d\leq -2.4$



c) $x+3\frac{1}{4}<8$

$-3\frac{1}{4}\ \ -3\frac{1}{4}$

$x<4\frac{3}{4}$



III. Given a verbal sentence: write, solve, and graph the inequality

a) The speed limit it 35 mph.

$x\leq 35$

b) The sum of 13 and m is greater than or equal to 5.

$+13+m\geq 5$

$-13\ \ -13$

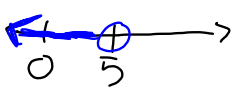
$m\geq -8$

c) The difference of p and 14 is less than -9.

$p-14<-9$

$+14\ \ +14$

$p<5$



IV. Story Problem

p. 360 #31

You earn points from buying items at an internet shopping site. You would like to redeem 2350 points to get an item for free, but you want to be sure to have more than 6,000 points left over. What are the possible numbers of points you can have before making a redemption? Write and solve an inequality.

$x-2350>6000$

$+2350\ \ 2350$

$x>8350$