

b.2 Solving Inequalities  
w/ Multiplication + Division

April 17, 2009

Review:

$$\frac{5a}{5} = \frac{20}{5}$$

$$\underline{a = 4}$$

$$\frac{5a}{5} < \frac{20}{5}$$

$$\underline{a < 4}$$



$$4 \cdot \frac{b}{4} = 9.4$$

$$\underline{\underline{b = 36}}$$

$$4 \cdot \frac{b}{4} \geq 9.4$$

$$\underline{b \geq 36}$$



Check 40:  
+ his should work

$$\frac{40}{4} \geq 9$$

$$10 \geq 9 \checkmark$$

Check zero  
+ his should NOT work

$$\frac{0}{4} \geq 9$$

$$0 \not\geq 9$$

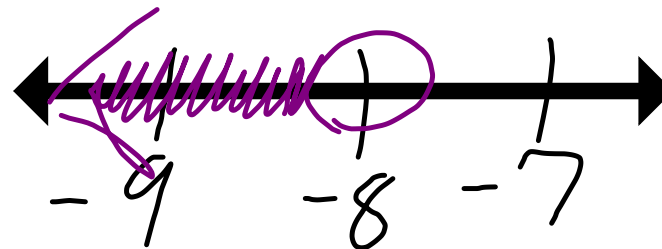
Review:

$$\frac{-4c}{-4} = \frac{32}{-4}$$

$$\underline{\underline{c = -8}}$$

$$\frac{-4c}{-4} > \frac{32}{-4}$$

$$\underline{\underline{c < -8}}$$



Check

we think it  
should work

$$-4(0) > 32$$

$$0 > 32$$

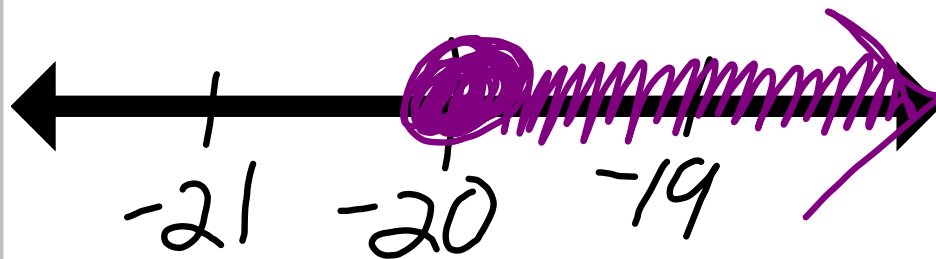
## Conclusion:

If we need to Multiply  
Or Divide by a Neg. #  
to Solve the Inequality  
Then we **MUST** Switch  
the Inequality Sign!

$$-\frac{1}{2} \left( -\frac{1}{2} x \right) \leq (10)^2$$

$$x \geq -20$$

Do this 1<sup>st</sup>  
since we \* by  
a negative



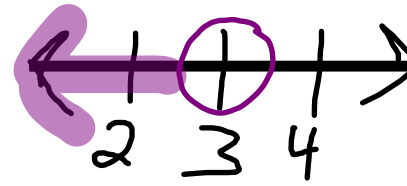
Check 0;  
this should work

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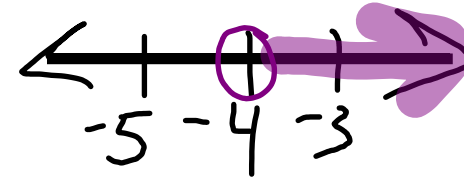
$$-\frac{1}{2}(0) \leq 10$$
$$0 \leq 10 \checkmark$$

Conclusions

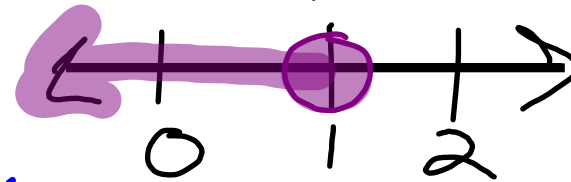
$x < 3$  All  $\mathbb{R}$  less 3



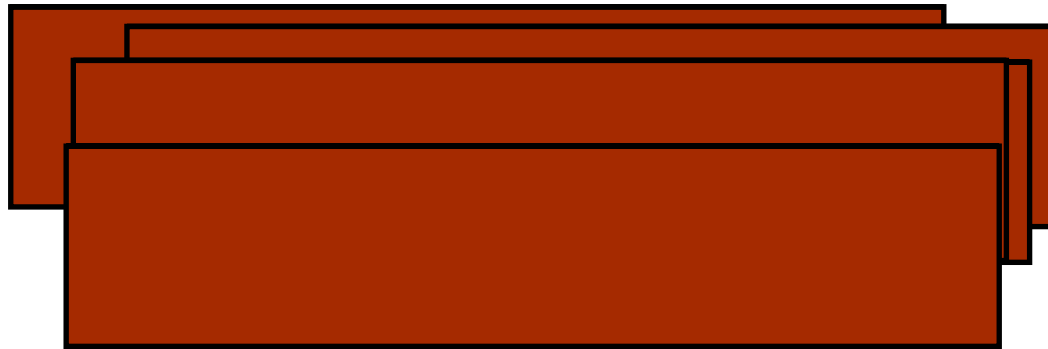
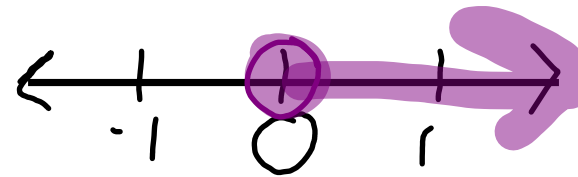
$a > -4$  All  $\mathbb{R}$  greater than -4



$b \leq 1$  All  $\mathbb{R}$  less than or equal to 1



$c \geq 0$  All  $\mathbb{R}$  greater than or equal to 0



O.T.L.

① pg 326-327:

From  
Yesterday

3, 6, 10, 12, 16, 24-28 (e)  
41, 44, 50, 54

Today

② pg 332: Summary Box  
at the Bottom of the Page.  
in Notes

③ pg 333: 15-31 (o)  
Show Work.