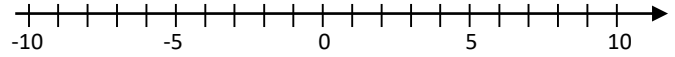
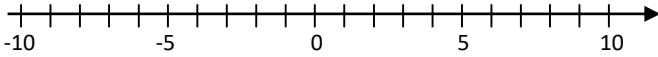


Algebra CC
Assignment #22
More Work with Compound Inequalities
*** Optional**

1. Graph each of the following compound inequalities on the number lines provided. If it's an AND statement write the inequalities as a single statement.

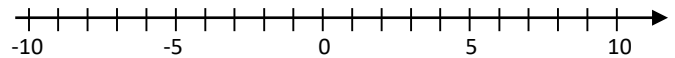
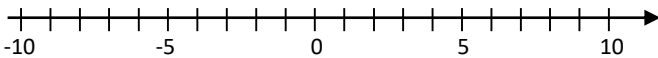
(a) $x > 5$ or $x \leq 3$

*(b) $x \geq -7$ and $x < 10$



(c) $x \leq 3$ or $x < -6$

*(d) $x < 3$ and $x > -5$



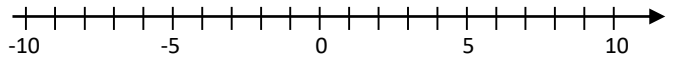
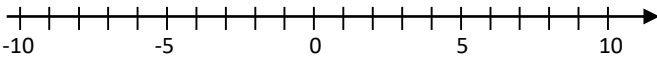
2. Graph each of the following. First, rewrite as two inequalities involving the AND connector.

(a) $-7 \leq x < 5$

*(b) $-2 \leq x \leq 6$

Two Inequalities: _____

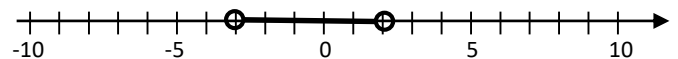
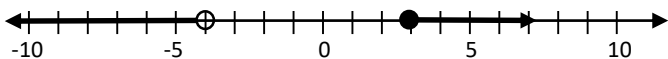
Two Inequalities: _____



3. For each of the following graphs, write a compound inequality that describes all of the numbers shown on the graph.

(a) Compound Inequality: _____

*(b) Compound Inequality: _____



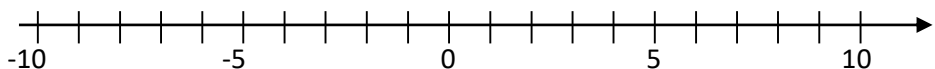
4. Consider the compound inequality: $-7 \leq 2x - 5 < 7$

(a) Using the skills you have learned today, rewrite the following inequality using the AND connector?

(b) Solve the compound inequality you found in part (a) and graph the solution on the number line. Rewrite your answer as a single statement.

(c) Using the skills above, try and simplify the following inequality. Graph the solution on the number line and rewrite your answer as a single statement.

$$-3 \leq 3x + 3 < 2x + 10$$



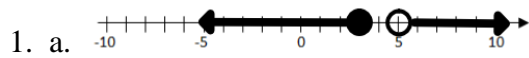
R1. What is the value of $\frac{x^2 - 4y}{2}$, if $x = 4$ and $y = -3$

R2. If $2x + 5 = -25$ and $-3m - 6 = 48$, what is the product of x and m ?

R3. The money a company received from sales of their product is represented by the equation $y = 45x - 120$, where y is the money in dollars and x is the number of products sold. How many products does the company need to sell in order to receive \$3705?

*R4. Simplify: $(x - 1)(-2)$

*R5. Solve for h and list the properties you used: $0.1(h + 20) = 3$



R1. 14

R2. 270

R3. 85

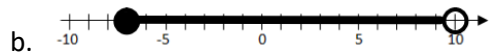
R4. $-2x+2$

R5. $h=10$

Step 1. Distributive Property

Step 2. Additive Property of Equality

Step 3. Multiplicative Property of Equality



2. a. $x \geq -7$ and $x < 5$



b. $x \geq -2$ and $x \leq 6$

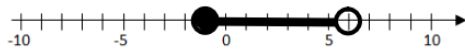


3. a. $3 \leq x < 4$

b. $-3 < x < 2$

4. a. $-7 \leq 2x - 5$ and $2x - 5 < 7$

b. $-1 \leq x < 6$



c. $-2 \leq x < 7$

