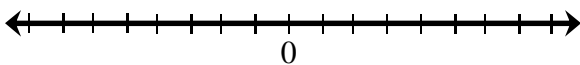
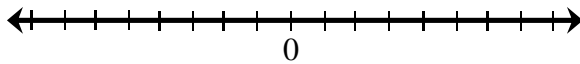
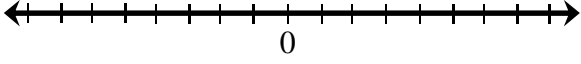
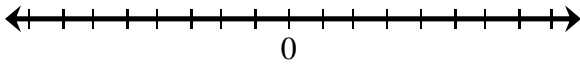
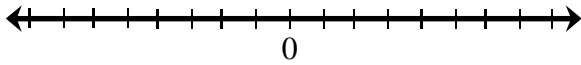
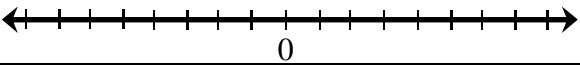
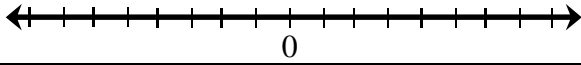


IM 3

2-2 Compound Inequalities H/W

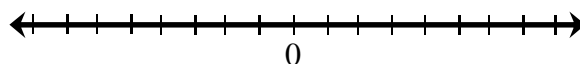
Name: _____ Per: _____ Date: _____

Show ALL work in the space provided. DO NOT just write an answer. You must show work or justify your answer to receive full credit.

<p>1. Solve and Graph. $2 - 3z \geq 7(8 - 2z) + 12$</p>  <p>A horizontal number line with arrows at both ends. The origin is labeled '0'. There are 10 tick marks on each side of the origin.</p>	<p>2. Your friend solved the following inequality incorrectly. Find the error your friend made and explain their mistake.</p> <ol style="list-style-type: none"> $\frac{1}{2}(y-16) \geq y+2$ $\frac{1}{2}y - 8 \geq y+2$ $-10 \geq \frac{1}{2}y$ $-20 \leq y$
<p>3. Solve and Graph. $-12x > 60$ and $3x \leq 18$</p>  <p>A horizontal number line with arrows at both ends. The origin is labeled '0'. There are 10 tick marks on each side of the origin.</p>	<p>4. Solve and Graph. $7n < 42$ or $-56 < 8n$</p>  <p>A horizontal number line with arrows at both ends. The origin is labeled '0'. There are 10 tick marks on each side of the origin.</p>
<p>5. Solve and Graph. $14 < 2x + 8$ and $3x + 5 \leq 23$</p>  <p>A horizontal number line with arrows at both ends. The origin is labeled '0'. There are 10 tick marks on each side of the origin.</p>	<p>6. Solve and Graph. $11 + 3k \geq 13$ or $17 + 4k < 13$</p>  <p>A horizontal number line with arrows at both ends. The origin is labeled '0'. There are 10 tick marks on each side of the origin.</p>
<p>7. Solve and Graph. $-8 \leq 3x + 4 < 16$</p>  <p>A horizontal number line with arrows at both ends. The origin is labeled '0'. There are 10 tick marks on each side of the origin.</p>	<p>8. Solve and Graph. $-17 > -5x - 7 \geq 23$</p>  <p>A horizontal number line with arrows at both ends. The origin is labeled '0'. There are 10 tick marks on each side of the origin.</p>

9. Your math test scores are 68, 78, 90, and 91. What is the lowest score you can earn on the next test and still achieve an average of at least 85?

10. The pH level of a popular shampoo is between 6.0 and 6.5 inclusive. What compound inequality shows the pH levels of this shampoo? Graph the solution.



11. Consider the compound inequality $x < 8$ *and* $x > a$.

A. Are there any values of a such that all real numbers are solutions of the compound inequalities? If, so what are they? If not, why not?

B. Are there any values of a such that no real numbers are solutions of the compound inequality? If, so what are they? If not, why not?

12. Consider the compound inequality $x < 8$ *or* $x > a$.

A. Are there any values of a such that all real numbers are solutions of the compound inequalities? If, so what are they? If not, why not?

B. Are there any values of a such that no real numbers are solutions of the compound inequality? If, so what are they? If not, why not?