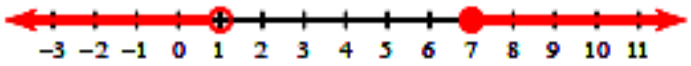
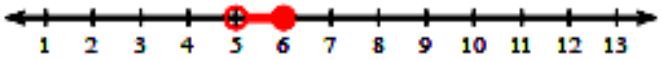
Algebra 1
Unit 3 Review Guide

Name:_____
Date:_____ Period:_____

Inequalities Study Guide

What you need to know & be able to do	Things to remember	Examples	
1. Solving and Graphing Linear Inequalities.	• Solve an inequality by isolating the variable. • Golden Rule: Dividing by a negative number flips the inequality.	a. Solve and graph: 9 < 3x	b. Solve and graph: 4 > -3x + 10
		c. Solve and graph $-3(x+2) < -15$	d. Solve: $7-2t \leq 21$ Is x = -7 a solution? Is x = -4 a solution? Is x = -10 a solution?
2. Creating Inequalities	• Define a variable for what you are solving for • Look for key words	a. The 9th grade class is putting on a variety show to raise money. It costs $700 to rent the banquet hall that they are going to use. If they charge $15 for each ticket, how many tickets do they need to sell to raise at least $1000?	b. Cecilia has $30 dollars to spend at a carnival. Admission costs $5 and each ride ticket costs $1.50. What is the maximum amount of tickets she can purchase?

3. Graphing and Naming Compound Inequalities	• And: shade between boundary points • Or: shade outside boundary points	a.  b.  c.  d. Graph $-2 < x \leq 3$ e. Graph $x < 0$ OR $x \geq 3$	
4. Creating Compound Inequalities	• Look for key words that indicate if values are included	a. An iguana needs an environment between 70 degrees and 95 degrees. Write a compound inequality.	b. Water is not a liquid when it is less than 0 degrees Celsius or above 100 degrees Celsius. Write a compound inequality.
5. Solving Compound Inequalities	•	a. Solve and graph: $4x < 20$ OR $x + 3 > 10$	b. Solve and graph: $5 < 3x - 10 \leq 17$