Algebra I
Notes 3.6 Solving Related Inequalities

Objectives: Define the concept and symbols of inequalities.
Graph an inequality on a number line.

Statements of Inequality

a is less than b _____

a is greater than b _____

a is less than or equal to b _____

a is greater than or equal to b _____

a is not equal to b _____

Graphing Inequalities

An open circle means _____ or _____.
An open circle indicates that the point IS NOT included in the solution.

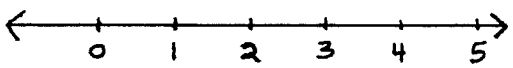
A closed circle means _____ or

_____.
An closed circle indicates that the point IS included in the solution.

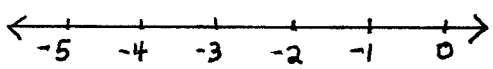
Greater than means to shade to the _____.

Less than means to shade to the _____.

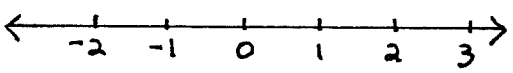
$a > 2$



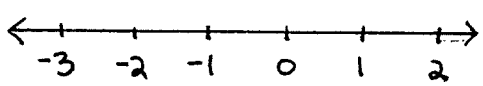
$-3 > d$



$0 \geq b$



$c \leq -1$



Compound Inequalities

x is less than b and greater than a

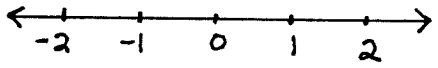
_____ or _____

x is less than or equal to b and greater than or equal to a

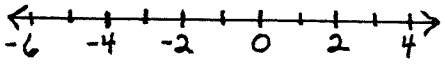
_____ or _____

Graphing Compound Inequalities

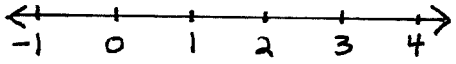
$-1 < a < 2$



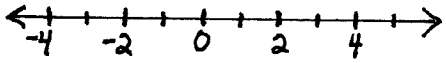
$-5 < m < -3$



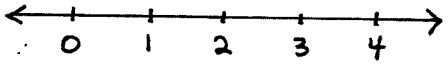
$1 \leq k \leq 3$



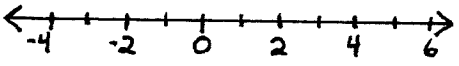
$0 < c \leq 4$



$2 \leq d < 4$



$-2 < j \leq 2$



Writing Inequality Statements

1. A stadium holds at most 100,000 people. _____

2. A classroom can have a maximum of 32 and a minimum of 15 students. _____

3. My car can carry no more than 4 passengers. _____

4. I need 6 to 8 hours of sleep each night. _____

5. At most, I can eat 4 pieces of pizza. _____