Solving Polynomial Inequalities

REVIEW

INEQUALITY SYMBOLS

$<$: Less Than

$>$: Greater Than

$\leq$: Less Than or Equal To

$\geq$: Greater Than or Equal To

INEQUALITY SYMBOLS

< : Less Than - Shade to the LEFT ; OPEN Dot

> : Greater Than - Shade to the RIGHT ; OPEN Dot

≤ : Less Than or Equal To – Shade to the LEFT ; CLOSED Dot

≥ : Greater Than or Equal To – Shade to the RIGHT ; CLOSED Dot

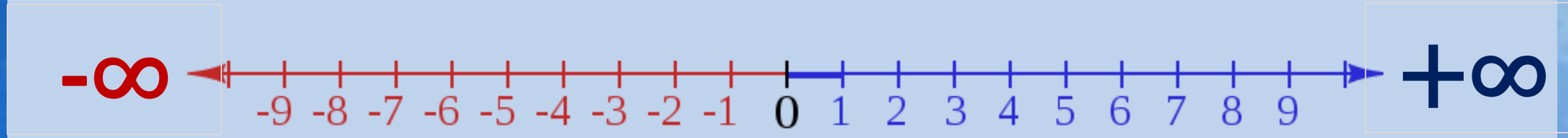
Using Interval Notation to Describe Inequalities

INTERVAL NOTATION SYMBOLS

< or >: Use Parentheses

≤ or ≥ : Use Brackets

+∞ or -∞: Use Parentheses



How to Solve Polynomial Inequalities

1. Write the original inequality as an equation.
2. Write the equation in standard form by setting it equal to 0.
3. Factor.
4. Use the zero product property to find the solutions. These are the critical x-values.
5. Plot the points on a number line and test points in each interval.
6. Write your solution as an inequality and interval notation.