

Lesson 3 Writing Inequalities

Name _____



INTRODUCTION

Sometimes there is a range of possible values to describe a situation. When you see a sign that says “Speed Limit 25,” you know that it doesn’t mean that you have to drive exactly at a speed of 25 miles per hour (mph). This sign means that you are not supposed to go faster than 25 mph, but there are many legal speeds you could drive, such as 22 mph, 24.5 mph or 19 mph. In a situation like this, which has more than one acceptable value, inequalities are used to represent the situation rather than equations.

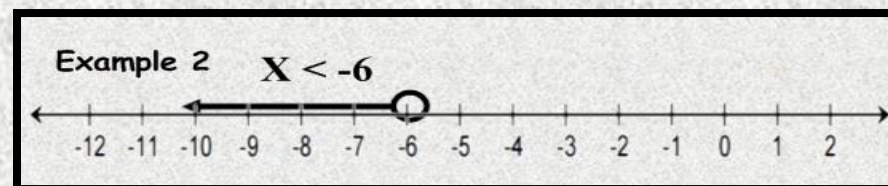
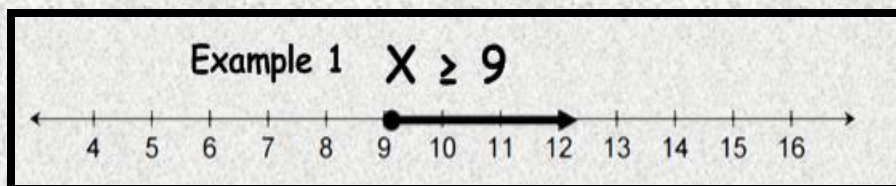
WHAT IS AN INEQUALITY?

An inequality is a mathematical statement that compares two expressions using an inequality sign. In an inequality, one expression of the inequality can be greater or less than the other expression. Special symbols are used in these statements. The box below shows the symbol, meaning, and an example for each inequality sign.

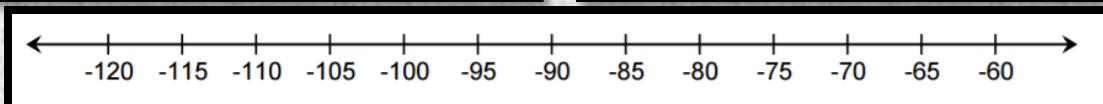
IMPORTANT RULE

When you multiply by a negative number, “reverse” the inequality sign. Whenever you multiply or divide both sides of an inequality by a negative number, the inequality sign must be reversed in order to keep a true statement.

When using a number line a closed circle is used because the inequality is “less than or equal to” (\leq). an open circle is used because the inequality is “greater than” ($>$).



1) $x < -85$



2) $x \geq 80$

