

# GEOMETRY LESSON 7-1

**Postulate 7-1 Comparison Property:** For any two numbers,  $a$  and  $b$ , exactly one of the following is true:

$$a < b, a = b, a > b$$

**Theorem 7-1:** If point  $C$  is between points  $A$  and  $B$  and  $A$ ,  $C$ , and  $B$  are collinear, then  $AB > AC$  and  $AB > CB$ .

**Theorem 7-2:** If  $\overrightarrow{EP}$  is between  $\overrightarrow{ED}$  and  $\overrightarrow{EF}$ , then  $m\angle DEF > m\angle DEP$  and  $m\angle DEF > m\angle PEF$ .

$\neq$  not equal

$\leq$  Less than or equal

$\geq$  Greater than or equal

**Transitive Property:** For any numbers  $a$ ,  $b$  and  $c$ ,

1. If  $a < b$  and  $b < c$  then  $a < c$ .
2. If  $a > b$  and  $b > c$  then  $a > c$ .

**Addition and Subtraction Properties:** For any numbers  $a$ ,  $b$  and  $c$ ,

1. If  $a < b$ , then  $a + c < b + c$  and  $a - c < b - c$ .
2. If  $a > b$ , then  $a + c > b + c$  and  $a - c > b - c$ .

**Multiplication and Division Properties:** For any numbers  $a$ ,  $b$  and  $c$

1. If  $c > 0$  and  $a < b$ , then  $ac < bc$  and  $a/c < b/c$ .
2. If  $c > 0$  and  $a > b$ , then  $ac > bc$  and  $a/c > b/c$ .