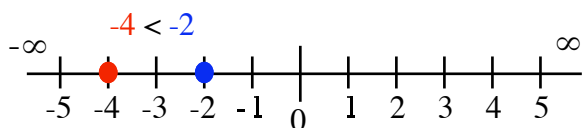


### You Try It 1

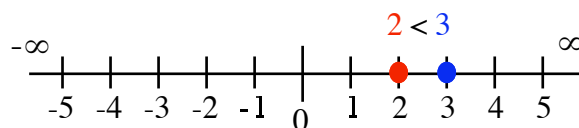
Given two points on a number line, shift each value the same number of spaces, according to the directions. State the resulting inequality. Use Example 1 as a guide. (Use the same given number line for your answer.)

a)



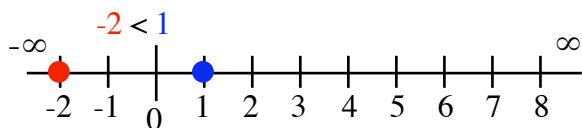
Shift each value 6 spaces to the right. (Add 6.)

b)



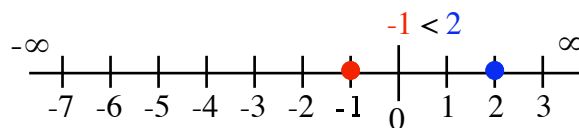
Shift each value 4 spaces to the left. (Add -4.)

c)



Shift each value 5 spaces to the right. (Add 5.)

d)



Shift each value 5 spaces to the left. (Add -5.)

Example 1 and You Try It 1 illustrate a property of inequalities that we will use when solving inequality statements later in this section:

#### **The Addition Property of Inequalities**

For all values of  $a$ ,  $b$ , and  $c$ ,

$$\text{If } a < b,$$

$$\text{then } a + c < b + c$$

This property is true for all inequality forms ( $<$ ,  $>$ ,  $\leq$ ,  $\geq$ , and  $\neq$ ).

In other words, we can add or subtract any number (or term) to each side of an inequality and still maintain the status (direction) of the inequality sign.

We can also maintain an inequality's status by doubling or tripling each value. In other words, we can find positive multiples of each side without changing the inequality's status. Likewise we can find positive fractional values of each number without changing the inequality's status.