

# 2-3 Comparing and Ordering (Pages 78–81)

On a number line, it is easy to determine which of two numbers is greater. The number to the right is greater than the number to the left. You can use the symbols  $>$ ,  $<$ , and  $=$  to tell how numbers compare. A mathematical sentence containing  $<$  or  $>$  is an inequality.

<b>Inequalities</b>	<ul style="list-style-type: none"> <li>• To use symbols to say that 4 is greater than <math>-3</math>, write <math>4 &gt; -3</math>.</li> <li>• To use symbols to say that <math>-3</math> is less than 4, write <math>-3 &lt; 4</math>.</li> </ul>
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## EXAMPLES

**A** Replace  $\bullet$  with  $<$ ,  $>$ , or  $=$ .

$2 \bullet -7$

The number 2 is to the right of  $-7$  on the number line, so 2 is greater than  $-7$ .

$2 > -7$

**B** Write an inequality using the numbers in the sentence *88°F is warmer than 70°F*.

On the number line, 88 is to the right of 70. Therefore, 88 is greater than 70.

$88 > 70$

### Try These Together

Replace each  $\bullet$  with  $<$ ,  $>$ , or  $=$ .

1.  $-5 \bullet -3$

2.  $|-6| \bullet 2$

3.  $|0| \bullet 0$

## PRACTICE

Replace each  $\bullet$  with  $<$ ,  $>$ , or  $=$ .

4.  $4 \bullet 0$

5.  $-|15| \bullet -10$

6.  $42 \bullet |-51|$

7.  $-4 \bullet 0$

8.  $|111| \bullet -2$

9.  $9 \bullet -1$

10.  $-6 \bullet 2$

11.  $7 \bullet 12$

12.  $|-1| \bullet 9$

Write an inequality using the numbers in each sentence. Use the symbols  $<$  or  $>$ .

13. Today's low temperature was  $31^{\circ}\text{F}$ . Today's high temperature was  $44^{\circ}\text{F}$ .

14. A regular soft drink has 120 Calories. A diet soft drink has 0 Calories.

15. 18 pounds is heavier than 16 pounds.



**16. Standardized Test Practice** Otis bought an organic farm in 1988. The table on the right shows the farm's tomato yields for the past six years. Which sentence correctly compares the number of bushels the farm produced in his first year as owner with the number the farm produced the previous year?

**A**  $194 > 278$

**B**  $194 < 249$

**C**  $194 < 207$

**D**  $194 < 278$

Year	Yield (bushels)
1986	249
1987	278
1988	194
1989	207
1990	282
1991	278

Answers: 1.  $<$  2.  $<$  3.  $=$  4.  $<$  5.  $<$  6.  $<$  7.  $<$  8.  $>$  9.  $>$  10.  $<$  11.  $<$  12.  $<$  13.  $31 < 44$  14.  $120 > 0$  15.  $18 > 16$  16. **D**