

## Writing Inequalities with Integers

Let's work through examples of writing inequalities.

1. *Write an inequality that compares  $-15$  and  $-8$  using the  $\geq$  symbol.*

To compare these integers, I will plot them on a number line. I'll draw a straight line with arrows on each end. Both integers are negative, so I only need the negative part of my number line. I'll put 0 here. I will use a scale of 3;  $-3, -6, -9, -12, -15$ . Now I go to  $-8$ , which will be about here, and I will plot  $-8$ . Then I will go to  $-15$  which goes right here on the  $-15$  tick mark, and I will plot  $-15$ .

I can look at the placement of the integers on the number line to compare them. I'm using the  $\geq$  symbol. Since  $-8$  is closer to 0 than  $-15$  is, it is greater than  $-15$ . To compare using the greater than or equal to symbol we would have  $-8 \geq -15$ .

2. *Yesterday the temperature was  $-11^{\circ}F$ , and today it was  $0^{\circ}F$ . Was it warmer today or yesterday?*

To determine the warmer day, I will plot these degrees on a number line. I will create a number line that has 0 and  $-11$  on it. I'll make tick marks. And now I will plot the two degrees.  $-11$  goes right on the  $-11$  tick mark, and 0 goes right on the 0 tick mark.

Since  $-11$  is to the left of 0, we know that it is less than 0 and 0 is greater than  $-11$ . This means  $0 > -11$ , therefore it was warmer today.

Together we have worked through examples of writing inequalities. Refer to this video if you need help when working on these types of problems.

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