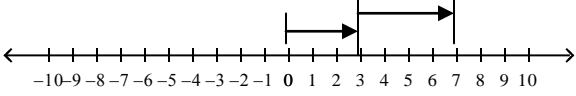
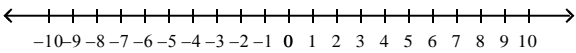
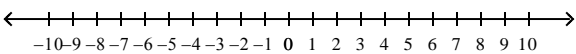
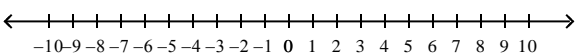
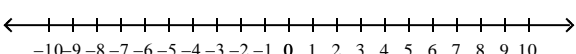


Algebra I
Lesson 1.2 – Adding and Subtracting Real Numbers
Mrs. Snow, Instructor

Number lines are a great way to really see what is going on when you add or subtract numbers. It is a simple process:

1. Start at zero
2. Move left – negative or right – positive as the number is given
3. Then repeat the process for the second number

Add or subtract on a number line

<p>1. $3 + 4$</p>  <p>A number line from -10 to 10. A vertical tick mark is at 3. A horizontal arrow starts at 3 and points right to 7. A second vertical tick mark is at 7. A second horizontal arrow starts at 7 and points right to 11.</p>	<p>1. Start at 0 2. Move 3 units right. 3. Move 4 units right. Answer : 7</p>
<p>2. $-4 + 7$</p>  <p>A number line from -10 to 10 with tick marks every 1 unit.</p>	
<p>3. $-8 + 2$</p>  <p>A number line from -10 to 10 with tick marks every 1 unit.</p>	
<p>4. $-2 - (-6)$</p>  <p>A number line from -10 to 10 with tick marks every 1 unit.</p>	
<p>5. $8 - 6$</p>  <p>A number line from -10 to 10 with tick marks every 1 unit.</p>	

Now look at your answers.

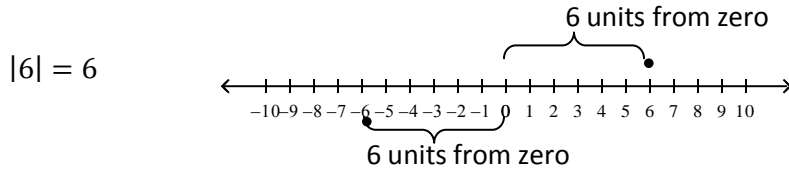
1. no biggy.
2. if we were to simplify without a graph, we in essence are subtracting the 4 from 7 and then keeping the sign of the biggest number, 7, the positive sign.
3. Same deal as #2, only this time the biggest number is 8, so we keep the sign of the 8, the negative sign.
4. Negative of a negative is what we have here: $-(-6)$, the first negative says to move left, the second negative says to move the opposite direction or move right; a negative of a negative makes a positive.
5. This is what you have been doing for years, 8 to the right and 6 to the left: basically 8 minus 6 with the biggest number 8 carrying the sign.

The distance from my house to school is 5.2 miles. How far is it from *the school to my house*? Still 5.2 miles, there is no negative value associated with this.

Absolute value is the distance a number is from zero, *origin*, on the number line. It is **always a positive value**. Straight lines are used to indicate an absolute value. $|4|$ or $|-4|$ so, $|4| = 4$ or $|-4| = 4$.

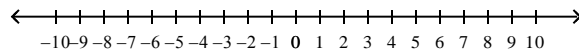
Always ask yourself: How many units from zero, the origin?

You can use a number line to help understand absolute value.



$|-6| = 6$

$|8| =$



$|-7| =$

Now I am sure you are asking about now, "Do I have to use the number line?" Ans.: Yeah, if the directions say to do so. You can in fact add and subtract in your head or by writing it down on paper. *Remember you must watch the signs of the numbers!*

Application: A skydiver jumps from an airplane at an altitude of 4500 feet and free falls for 430 feet before he pulls the ripcord. At what altitude did the skydiver pull the ripcord? *Draw a picture!*