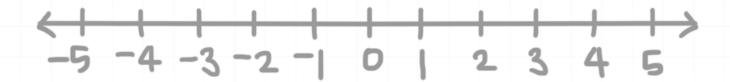# Opposite of a number

When we talk about the "opposite of a number," we're specifically talking about the positive and negative versions of the same number. Now that's not a technical definition by any means, so let me show you what I mean.

But before we get into that, let's take a step back and talk about negative numbers. The easiest way to illustrate a negative number is by using the number line.

On this number line, we can see the number 0 in the center. The numbers to the right of 0 are always positive numbers; the numbers to the left of 0 are always negative numbers, and this is always true when we're talking about a number line like this.

The other important thing to realize about this number line is that the numbers 1 and -1 are the same distance away from 0. We could say they're both "one unit" away from 0, in fact. In the same way, 4 and -4 are the same distance from 0; they're both "four units" away from 0.

And this brings us back to the concept of "opposite" numbers. Opposite numbers are numbers which are the same distance away from 0. And that's why 1 and -1 are opposites (because they are the same distance from 0), and why 4 and -4 are opposites (because they are also the same distance from 0).

On the other hand, 2 and 4 are not opposites of each other, because the number 2 is two units away from 0, whereas the number 4 is four units away from 0. Two numbers are **not** opposites of each other if they are different distances away from 0.

The easiest way to remember how to find the opposite of a number is to add a negative sign if the number is positive, or to take away the negative sign if the number is negative.

Example

What is the opposite of 7?

To find the opposite of the positive number 7, we simply add a negative sign to get -7. Both 7 and -7 are seven units from 0 on the number line, so 7 and -7 are opposites of each other.
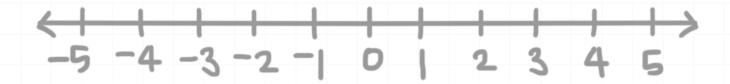
Let's try an example with a negative number.

Example

What is the opposite of -10?

To find the opposite of the negative number -10, we simply take away the negative sign to get 10. Both 10 and -10 are ten units from 0 on the number line, so 10 and -10 are opposites of each other.

How about 0? Does 0 have an opposite? We know from looking at the number line from earlier

that we can find the opposite of a number by measuring out the same distance from 0, but just on the opposite side of 0. So since 5 is five units away from 0 to the right of 0, then the opposite of 5 is the number that's five units away from 0 to the left of 0, which is -5.

But 0 itself is "zero units" away from 0 (keep in mind that it's the ONLY number that's "zero units" away from 0). 0 isn't a positive number or a negative number. So the opposite of 0 is actually 0. In other words, 0 is its own opposite!