Math, *you can do it!*

Integers - subtraction, review add

by Bill Hanlon

Last time we left off adding integers. The model we used to explain addition was "walking" from zero.

We developed three rules for adding signed numbers so we would no longer have to draw pictures.

Rules for Adding Signed Numbers

Rule 1. To add two positive numbers, find the sum of their absolute values, the answer is positive.

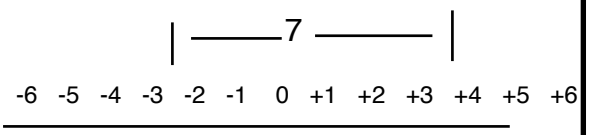
Rule 2. To add two negative numbers, find the sum of their absolute values, the answer is negative.

Rule 3. To add a positive and negative number, find the difference in their absolute values and use the sign of the integers with the larger absolute value

This week we'll look at subtraction. The model we'll use will be distance on a number line.

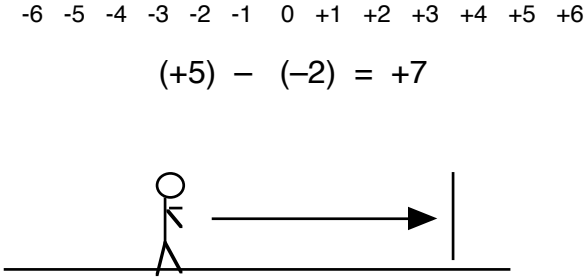
Let's take a look.

Example (+5) – (–2)



By counting we can see the distance between (+5) and (–2) is 7. That seems easy enough, but how can we determine the direction or sign?

To do this, we will go back to the number line. The agreement we will make to determine the sign is by standing on the second number (subtrahend) and look in the direction of the first number. if we look to the right, the answer will be positive. If we look to the left, the answer will be negative.



(+5) – (–2) = +7

Again, drawing pictures is great for understanding, but if we want t do these problems quickly, we might want to develop another rule.

Subtraction

Rule 4. Change the sign of the subtrahend (second number), then use rule 1,2, or 3 for addition, whichever applies.

Example (-2) – (–4)

Using Rule 4, we change the sign of the subtrahend –4 to +4, then add using Rule 3.

(–2) + (+ 4) = +2

Drawing a few more pictures might help you with this rule.