

## Super-sweet math model number two.

# Your New B.F.F. THE DOUBLE NUMBER LINE

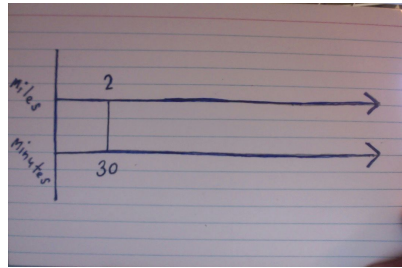
Here's a great way to SEE & SHOW how a ratio behaves when the numbers are increased or decreased. The **DOUBLE NUMBER LINE** allows you to see how one part of the ratio affects the other. Really, it's just a ratio table turned on its side. But somehow it really illustrates what happens to one number when the other is increased or decreased. Cool!

Here's a problem that we can solve with this great tool:

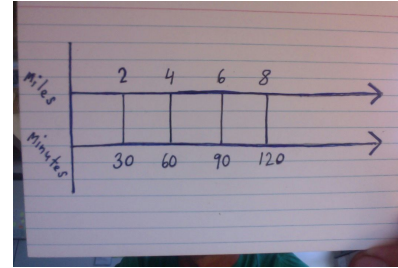
Kyra is participating in a fundraiser walk-a-thon. She walks 2 miles in 30 minutes. If she continues to walk at the same speed, how long will it take her to walk 7 miles?

First, we start by drawing a double number line and immediately show how 2 miles and 30 minutes are connected.

Second, we extend this understanding. How long will it take her to walk 4 miles? 6? 8? Easy!

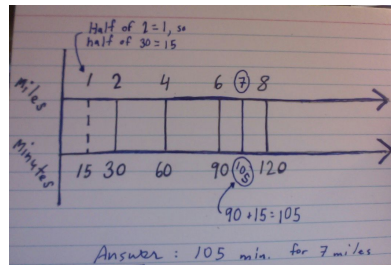


First:



Second:

But what about 7 miles? Since it's not a multiple of two, 7 miles doesn't show up on our line. We know that 6 miles will take 90 minutes. And we know that 8 miles will take 120 minutes. We need to add one more mile to 6, but how long does it take to walk one mile? If the answer doesn't just jump out at you, go back and look at the 2-mile mark. That took 30 minutes. Half of 2 miles is 1 mile, and half of 30 minutes is 15 minutes. I can add this 15 minutes to the 90 Kyra needed to walk 6 miles.  $90 + 15 = 105$  minutes.



Third:

In this example, we were able to extend the ratio but also add an extra piece (1 mile = 15 minutes) that might not have been obvious if we had used a ratio table. Great tool!