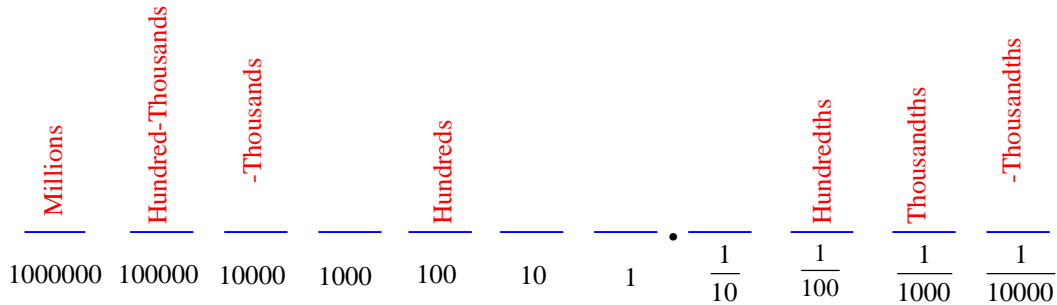


## Decimals

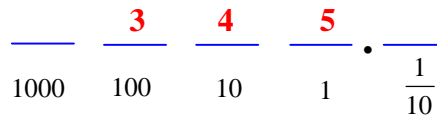
### How do I use the decimal place value system to understand what a number is “worth”?

The *location* of a numeral determines what it is “worth”. Let’s use the place value chart below to analyze a couple of numbers.



### Example

Let’s use the place value chart to understand what the arrangement of the number 345 means:



The 5 is located in the “ones” position, so it is worth:  $5 \times 1 = 5$

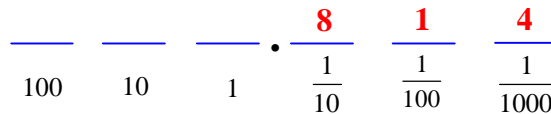
The 4 is located in the “tens” position, so it is worth:  $4 \times 10 = 40$

The 3 is located in the “hundreds” position, so it is worth:  $3 \times 100 = 300$

As you can see, 345 is:  $300 + 40 + 5$

### Example

Now let’s try 0.814:



The 8 is located in the “tenths” position, so it is worth:  $8 \times \frac{1}{10} = \frac{8}{10}$

The 1 is located in the “hundredths” position, so it is worth:  $1 \times \frac{1}{100} = \frac{1}{100}$

The 4 is located in the “thousandths” position, so it is worth:  $4 \times \frac{1}{1000} = \frac{4}{1000}$

As you can see, 0.814 is:  $\frac{8}{10} + \frac{1}{100} + \frac{4}{1000}$