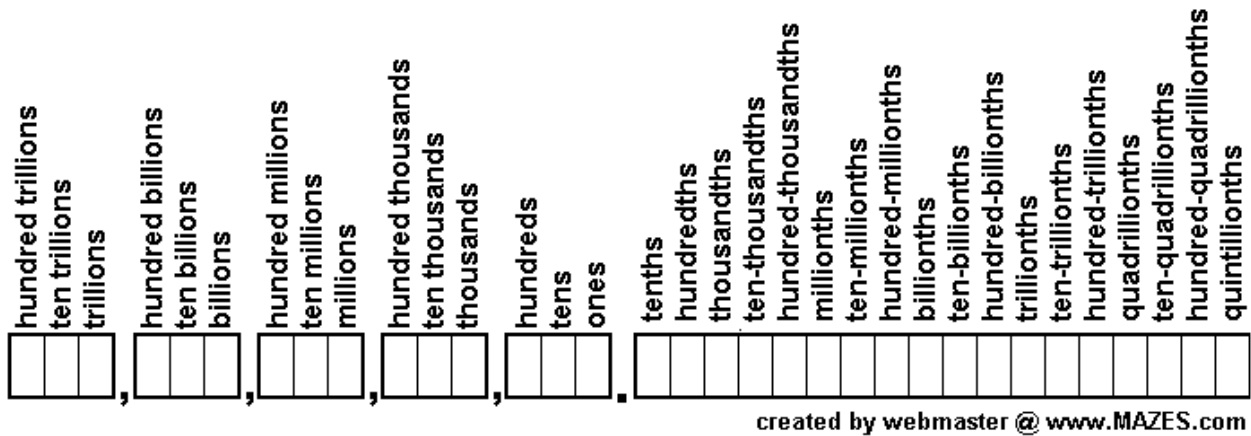


Decimals Review—Math 099

Place Values:

The illustration shows all of the place values we will need. If you want to find more place values, go to google.com and type in “place values.”



Converting Between a Fraction and a Decimal:

- 1) The fraction bar means divide

$$\frac{4}{5}$$

- 2) So we can rewrite this as:

$$4 \div 5$$

- 3) Now we divide and get:

$$0.8$$

Adding Decimals:

- 1) First line up the decimals so that the decimal points are on top of each other:

$$\begin{array}{r} 3.67 \\ + 2.5 \\ \hline \end{array}$$

2) And now we add, putting a zero in any spaces that are empty:

$$\begin{array}{r} 3.67 \\ + 2.50 \\ \hline 6.17 \end{array}$$

Subtracting Decimals:

1) Like adding, we line up the decimal point:

$$\begin{array}{r} 3.67 \\ - 2.5 \\ \hline \end{array}$$

2) Then we put in zeros in the empty places and add:

$$\begin{array}{r} 3.67 \\ - 2.50 \\ \hline 1.17 \end{array}$$

Multiplying Decimals:

1) Like addition and subtraction we line up the decimal points, and fill in the empty places with zeros:

$$\begin{array}{r} 3.67 \\ * 2.50 \\ \hline \end{array}$$

2) Then multiply like you normally would, but don't put in a decimal point yet:

$$\begin{array}{r} 3.67 \\ * 2.50 \\ \hline 000 \\ 1850 \\ 73400 \\ \hline 75250 \end{array}$$

- 3) Now we count how many digits were in the original problem (4) and that is how many decimal digits our answer has: 7.5250

Dividing Decimals:

- 1) To divide decimals we put the numbers into our long division thingy:

$$\begin{array}{r} \\ 2.3 \overline{)4.912} \end{array}$$

- 2) And then we go about our division without putting a decimal in our answer:

$$\begin{array}{r} \\ 2.3 \overline{)4.9120} \\ \underline{-4.6} \\ 0.31 \\ \underline{-0.23} \\ 0.082 \\ \underline{-0.076} \\ 0.0060 \\ \underline{-0.0046} \\ 0.0014 \end{array}$$

- 3) We'll stop there. Now, to put in our decimal, we first move it up from under our division sign to 0.2132. Then we look at the number outside the division sign and see how many decimal places it has (1 in this case) and we move the decimal point one place to the right in our answer: 2.132.