

## Dividing Decimals

To divide a decimal by a whole number, set up the division ( $8 \overline{)256}$ ), and immediately bring the decimal point straight up into the answer ( $8 \overline{)256}$ ). Then, divide as you would normally divide whole numbers.

Example:

$$\begin{array}{r} .032 \\ 8 \overline{)256} \\ \underline{0} \\ 25 \\ \underline{24} \\ 16 \\ \underline{16} \\ 0 \end{array}$$

To divide any number by a decimal, you must perform an extra step before you can divide. Move the decimal point to the very right of the number you are dividing by, counting the number of places you are moving it. Then, move the decimal point the same number of places to the right in the number you are dividing into. In other words, first change the problem to one in which you are dividing by a whole number.

Example:  $.06 \overline{)1.218}$

1. Because there are two decimal digits in .06, move the decimal point two places to the right in both numbers and move the decimal point straight up into the answer:

$$\begin{array}{r} . \\ .06 \overline{)1.218} \end{array}$$

2. Divide using the new numbers:

$$\begin{array}{r} 20.3 \\ 6 \overline{)121.8} \\ \underline{12} \\ 01 \\ \underline{00} \\ 18 \\ \underline{18} \\ 0 \end{array}$$

Under certain conditions, you have to tack on zeros to the right of the last decimal digit in the number you are dividing into:

- if there aren't enough digits for you to move the decimal point to the right.
- if the answer doesn't come out evenly when you do the division.
- if you are dividing a whole number by a decimal. Then you will have to tack on the decimal point as well as some zeros.