Multiply as a whole number:

$$\begin{array}{r} 1500 \\ \times\ 15 \\ \hline 7500 \text{ (the result of } 5 \times 1500) \\ 1500 \text{ (the result of } 1 \times 1500) \\ \hline = 22500 \end{array}$$

Add the number of decimal places:

$$\begin{array}{l} \$15.00 \text{ (2 decimal places)} \\ \times\ 0.15 \text{ (2 decimal places)} \\ \hline \$2.2500 \text{ (the decimal point is inserted four places to the right of the decimal point)} \end{array}$$

The tip would be $2.25. In this case, you have converted percentage to a decimal.
In Check Up 6.20, convert each number to a percentage.

RATIOS AND PROPORTIONS

Ratios and proportions are ways to compare items. A **proportion** is a statement to say that two **ratios** (mathematical relationships) are equal. In the following example, both sides of the equation (ratios) are equal.

100 syringes is to one box	= as	200 syringes is to two boxes

This could also be written using colons as follows:

100 syringes : one box = 200 syringes : two boxes

Both sides of the equal sign must relate to each other in the same way. For example:

1/1 = 2/2 = 3/3 = 4/4 = 5/5 = 6/6 = 7/7

All these relate to each other in the same way because they all are equal to 1. They could instead be equal to 1/2.

1/2 = 2/4 = 3/6 = 4/8 = 5/10 = 6/12 = 7/14

To go from 1/2 to 2/4, you multiply the numerator and denominator by 2. They are still equal. To go from 1/2 to 3/6, you multiply the numerator and denominator by 3.

As you multiply the numerator and denominator by the same number, you are simply multiplying by 1 and thus are not changing the relationship of the numbers.

Ratios and proportions are also expressed as fractions. If you are asked to make a 1:10 bleach solution, it is a 10% or 10/100 bleach solution.

1:10 → 1/10 = one tenth bleach and nine tenths water

CHECK UP 6.20: NUMBERS TO PERCENTAGES

Convert each of these numbers to a percentage.

20/100 = _____ 0.20 = _____

2/100 = _____ 0.02 = _____

0.2 = _____