

## Dividing Fractions

Division is multiplication in reverse. When you multiply  $1/5 \times 2/3$ , you have  $2/15$ . Suppose you divide  $2/15$  by  $1/3$ . You should have  $2/3$ .

To reverse multiplication, **invert** the fraction you are dividing by (flip the numerator and denominator over), and change the process to multiplication instead of division.

$$\text{Example: } \frac{2}{15} \div \frac{1}{3} \rightarrow \frac{2}{15} \times \frac{3}{1} = \frac{10}{15} = \frac{2}{3}$$

Therefore, the steps for dividing fractions are as follows:

- Invert the second fraction.
- Multiply the two fractions.
- Reduce if needed.

In Check Up 6.12, try dividing the fractions.



### CRITICAL THINKING

Sometimes patients don't take a whole pill, but part or multiples of a pill, and we may have to help them with this concept. For example, if Colleen E. takes 1 1/2 pills per dose, how will she plan to take enough medication with her for a 14-day vacation?

## DECIMALS

A **decimal** is similar to a fraction, but with 10, 100, 1,000, and so on in the denominator. However, rather than writing it as a fraction, you can use a decimal point. Because drug doses often contain decimal points, it is important to understand decimals and how they work. Figure 6-4 illustrates how to identify units in numbers that have a decimal.

### Rounding Decimals

Tablets are not usually dispensed in parts unless they are specifically **scored** (easily divisible into accurate doses) to do so. Capsules cannot be broken apart and separated evenly. Thus, you would usually round up or down if a dosage calculation does not produce a whole number. With fluids, you can give an exact decimal (e.g., 1.3 mL), but you may need to round up or down between 1.3 and 1.4 if the decimal is between those marks on the syringe or a measuring cup.

If a tablet is not scored, and you must round the amount:

For 0.5 to 1.49 → give one tablet

For 1.50 to 1.99 → give two tablets



### CHECK UP 6.12: DIVIDE THE FRACTIONS

Divide these fractions.

$$1/6 \div 1/2 = \underline{\hspace{2cm}} \qquad 6/2 \div 3/4 = \underline{\hspace{2cm}}$$

$$15/30 \div 5 = \underline{\hspace{2cm}} \qquad 2/3 \div 6/8 = \underline{\hspace{2cm}}$$

$$2/3 \div 3/2 = \underline{\hspace{2cm}}$$