LESSON 4

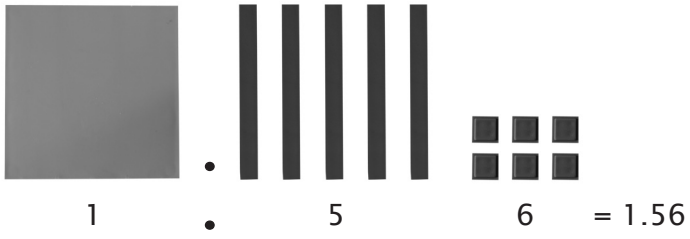
Add Decimal Numbers

In this lesson, you will begin using the algebra-decimal inserts to represent decimals. Turn a red hundred square upside down so the hollow side is showing and snap the flat green piece (from the algebra/decimal inserts) into the back. Then turn over several blue 10 bars and snap the flat blue pieces (also from the inserts) into their backs. Then take out the little one-half inch red cubes.

The large green square represents one unit. The size of the unit has been increased from the little green cube to this larger size, just as was done when you studied fractions. Since the large green square represents one, what do you think the flat blue bars represent? It takes ten of them to make one, so they are each 1/10, or 0.1. The red cubes represent 1/100, or 0.01.

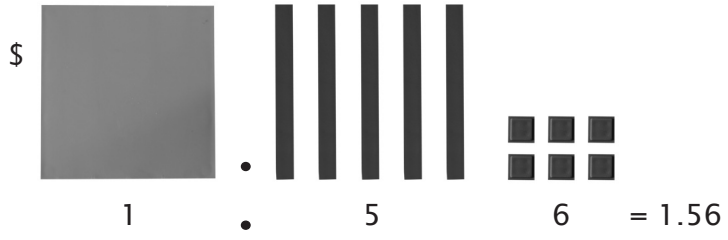
Figure 1 shows how to represent 1.56 or $1 \times 1 + 5 \times \frac{1}{10} + 6 \times \frac{1}{100}$ with the decimal inserts.

Figure 1



As has been said before, decimal notation is used for money. Figure 1 represents money with the green unit as one dollar. A blue 1/10 bar represents one dime, or 1/10 of a dollar. A red cube represents one cent, or one penny, which is 1/100 of a dollar or 1/10 of a dime.

Figure 2



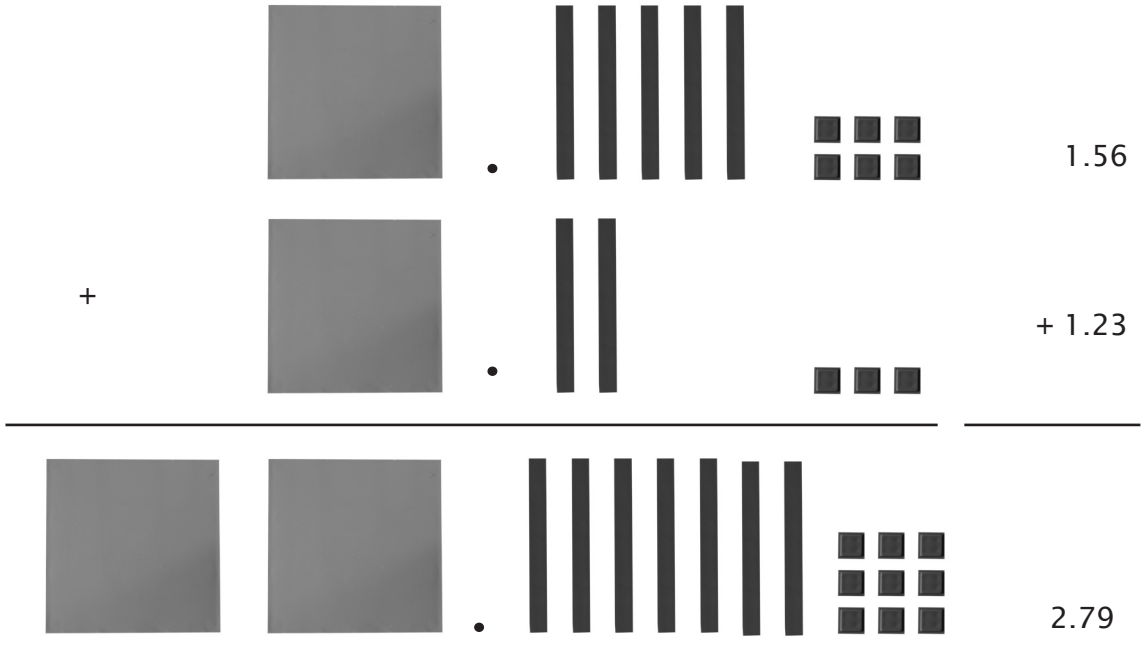
When you add up the change in your pocket, you add dollars to dollars, dimes to dimes, and cents to cents. Thinking of how you count money helps you understand why the key concept for adding and subtracting decimals is adding units to units, tenths to tenths, hundredths to hundredths, and thousandths to thousandths. This shouldn't seem strange because you have been adding like place values, regrouping as necessary, since *Beta*.

The easiest way to distinguish the values and make sure you are combining like values is by writing the problem vertically so the decimal point in one number is directly above (or below) the decimal point in the other number. Lining up these points ensures that your place values are also lined up. You may only add or subtract two numbers if they have the same value.

When using the inserts, it is clear that you can only add the green to the green, the blue to the blue, etc. When you don't have enough inserts for greater numbers, always line up the decimal points. The same skills are used for adding decimals and money as for adding any number. Remember that decimals are in base 10. You've just learned some new decimal values.

Example 1

Add: 1.56 + 1.23



Example 2

Add: 1.79 + 0.54