LESSON 4

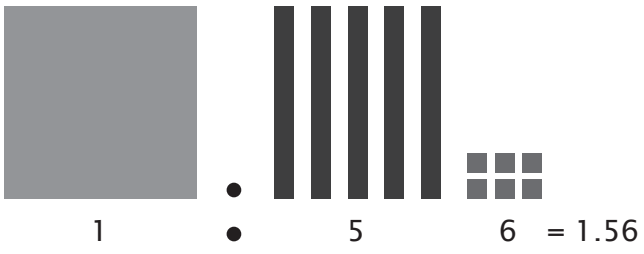
Add Decimal Numbers

In this lesson, you get to meet the pieces that represent the 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. We've increased the size of the unit from the little green cube to this larger size, just as we did when learning 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 .1. The red cubes represent 1/100 or 0.01.

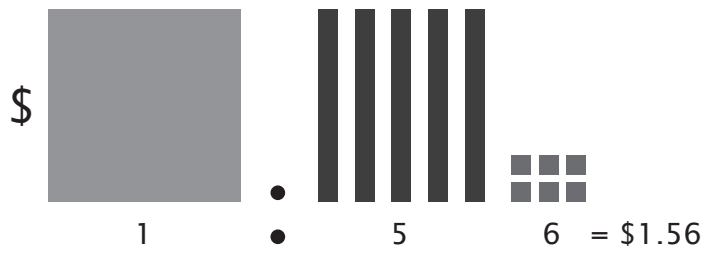
In Figure 1, we represent 1.56 or 1 x 1 + 5 x 1/10 + 6 x 1/100 with the decimal inserts.

Figure 1



As we've said before, money is a pure decimal function. If figure 1 represents money with the green unit as one dollar, then 1/10 of a dollar is one 10c coin and is represented by the blue 1/10 bars. As shown with the red cubes, 1/100 of a dollar or 1/10 of a 10c coin is one cent.

Figure 2

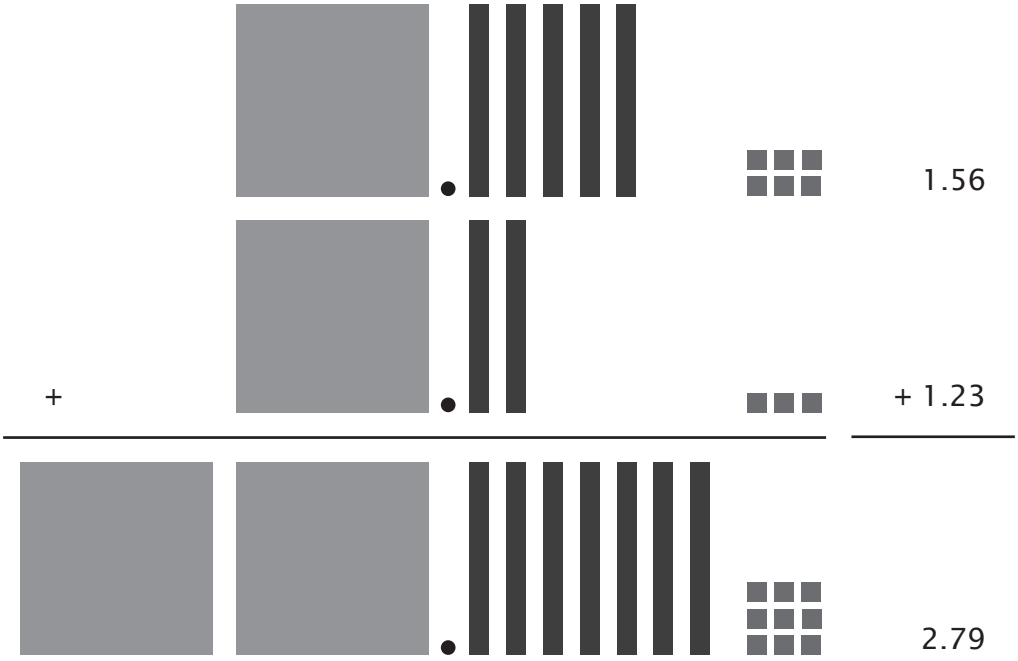


Even though New Zealand no longer uses one-cent coins, it is imporrtant for the student to understand the concept of one cent and 1/100 of a dollar. Values are rounded to the nearest ten cents when buying or selling. $1.56 would be rounded to $1.60.

Understanding money will help us add and subtract decimals. The key to understanding this is the old adage, "to compare or combine, you must be the same kind." You can add only dollars to dollars and 10c to 10c and cents to cents. So also in decimals, you can add only units to units and tenths to tenths and hundredths to hundredths. The easiest way to distinguish the values and make sure you are combining like values is by writing numbers 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 you 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 add only the green to the green, the blue to the blue, etc. But when we don't have the inserts for larger 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 pure base 10. You've just learned some new kinds of decimal values.

Example 1
Add 1.56 + 1.23



Example 2
Add 1.79 + 0.54. (The zero is 0.54 is a place holder. It may be omitted when working the problem if you wish.)