Lesson 8: Adding and Subtracting Decimals

When you compute with decimals, the placement of the decimal point is very important. You must line up the decimal points and place values in the numbers you are adding or subtracting. You may need to use zeros as placeholders. Then add or subtract the two decimals as if they were whole numbers. Finally, move the decimal point straight down into the sum or difference.

▷ Example

What is the sum of 3.13 + 2.392?

Line up the numbers by their decimal points. You can add a zero as a placeholder at the end of 3.13. That way, both numbers have the same number of digits to the right of the decimal point. Then add.

$$\begin{array}{r} \overset{1}{} \\ 3.130 \\ +\ 2.392 \\ \hline 5.522 \end{array}$$

3.13 + 2.392 = 5.522

▷ Example

The Mueller family checks two suitcases at the airport. The weight of the larger suitcase is 44.8 pounds. The weight of the lighter suitcase is 31.337 pounds. What is the combined weight of the two suitcases?

Line up the numbers by their decimal points. Add two zeroes to 44.8 as placeholders so both numbers have the same number of digits to the right of the decimal point. Then add.

$$\begin{array}{r} \overset{1}{} \\ 44.800 \\ +\ 31.337 \\ \hline 76.137 \end{array}$$

The combined weight of the two checked suitcases is 76.137 pounds.

▶ Example

What is the difference of $8.19 - 4.123$?

Line up the numbers by their decimal points. Add a zero as a placeholder at the end of 8.19. That way, both numbers have the same number of digits to the right of the decimal point. Then subtract.

$$
\begin{array}{r}
^{8\,10} \\
8.19\cancel{0}\cancel{0} \\
-\ 4.123 \\
\hline
4.067
\end{array}
$$

$8.19 - 4.123 = 4.067$

▶ Example

A quart of blueberries costs $3.99. A quart of organic blueberries costs $5.75. How much more expensive is the quart of organic blueberries?

Line up the numbers by their decimal points. Then subtract.

$$
\begin{array}{r}
^{4\,1615} \\
\cancel{5}.7\cancel{5} \\
-\ 3.99 \\
\hline
1.76
\end{array}
$$

The organic blueberries are $1.76 more expensive.

▶ Example

Rebecca is 1.6 meters tall. Her brother Jamaal is 1.485 meters tall. How much taller is Rebecca than her brother?

Line up the numbers by their decimal points. Add two zeroes as placeholders at the end of 1.6. That way, both numbers have the same number of digits to the right of the decimal point. Then subtract.

$$
\begin{array}{r}
^{5\,910} \\
1.\cancel{6}\cancel{0}\cancel{0} \\
-\ 1.485 \\
\hline
0.115
\end{array}
$$

Rebecca is 0.115 meter taller than her brother.