

Lesson 8: Operations with Decimals

Goals:

- Combine decimal numbers.
- Multiply decimal numbers.
- Divide decimal numbers, including long division.
- Solve contextual problems involving division of decimal numbers.

Combining Decimals

To add or subtract decimal numbers, the same rules apply as for any other signed numbers. When the signs of the numbers are the same, we add the numbers and the sign stays the same. When the signs of the numbers differ, we subtract the numbers (large subtract small) and the sign of the answer matches that of the larger number.

We can combine decimal numbers by lining up the decimal points of the numbers and either adding or subtracting depending on the question.

Example 1

Combine the following.

$$\text{a) } 6.34 + 4.15 \Rightarrow \begin{array}{r} 6.34 \\ + 4.15 \\ \hline 10.49 \end{array}$$

$$\text{b) } 27.32 + 8 + 17.1 \Rightarrow \begin{array}{r} 27.32 \\ 8.00 \\ + 17.10 \\ \hline 52.42 \end{array}$$

$$\text{c) } 5.93 - 2.81 \Rightarrow \begin{array}{r} 5.93 \\ - 2.81 \\ \hline 3.12 \end{array}$$

$$\text{d) } 8.21 - 11.4 = \boxed{-3.91} \quad \begin{array}{r} -11.40 \\ 8.21 \\ \hline -3.19 \end{array}$$

$$\text{e) } 14 - 6.23 \Rightarrow \begin{array}{r} 14.00 \\ - 6.23 \\ \hline 7.77 \end{array}$$

$$\text{f) } 5 - 9.67 \Rightarrow \begin{array}{r} -9.67 \\ 5.00 \\ \hline -4.67 \end{array}$$