Lesson 5 Summary

Long division gives us a way of finding decimal expansions for fractions.

For example, to find a decimal expansion for $\frac{9}{8}$, we can divide 9 by 8.

$$
\require{enclose}
\begin{array}{r}
1.125 \\
8 \enclose{longdiv}{9.000} \\
\underline{8} \\
1\,0 \\
\underline{8} \\
20 \\
\underline{16} \\
40 \\
\underline{40} \\
0
\end{array}
$$

Sometimes it is easier to work with the decimal expansion of a number, and sometimes it is easier to work with its fraction representation. It is important to be able to work with both. For example, consider the following pair of problems:

- Priya earned x dollars doing chores, and Kiran earned $\frac{6}{5}$ as much as Priya. How much did Kiran earn?

- Priya earned x dollars doing chores, and Kiran earned 1.2 times as much as Priya. How much did Kiran earn?

Since $\frac{6}{5} = 1.2$, these are both exactly the same problem, and the answer is $\frac{6}{5}x$ or $1.2x$.

When we work with percentages in later lessons, the decimal representation will come in especially handy.

Lesson 5 Glossary Terms

- repeating decimal