

KEY CONCEPT OVERVIEW

In Lessons 12 through 14, students add decimals by converting **decimal numbers** to **fraction form** before adding and then converting the sum back to a decimal number. (See Sample Problem.) It is important to note that, in these lessons, students do NOT learn to add decimals by lining up the decimal points.

You can expect to see homework that asks your child to do the following:

- Express tenths and hundredths as hundredths (e.g., 3 tenths + 4 hundredths = 34 hundredths).
- Add tenths and hundredths by converting tenths to hundredths before finding the sum.
- Add **mixed numbers** with units of ones, tenths, and hundredths.
- Solve word problems requiring the addition of numbers written in **decimal form**, converting to fraction form before solving.

SAMPLE PROBLEM (From Lesson 13)

Solve by rewriting the expression in fraction form. After solving, rewrite the complete number sentence in decimal form.

$$5.9 + 4.94$$

$$5.9 + 4.94 = 5\frac{9}{10} + 4\frac{94}{100} = 5\frac{90}{100} + 4\frac{94}{100} = 9\frac{184}{100} = 10\frac{84}{100}$$

$\begin{array}{r} \diagup \quad \diagdown \\ 1 \quad \frac{84}{100} \end{array}$

$$5.9 + 4.94 = 10.84$$

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

- Although it may be tempting to show your child how to add numbers in decimal form by lining up the decimals, it will be more helpful to support the current lesson of adding decimals by converting to fractions. The objective is for students to see that writing numbers in decimal form is just another way of expressing whole numbers, tenths, and hundredths that were written in fraction form (e.g., $\frac{86}{100} = 0.86$). In other words, the decimal and fraction forms share the same point on the number line. Students will be taught to add numbers in decimal form by lining up the decimals in Grade 5 of *Eureka Math*.
- Practice converting tenths to hundredths. Write a decimal number that has digits in both the ones place and the tenths place, such as 4.7. Prompt your child to write the number in fraction form ($4\frac{7}{10}$). Next, prompt him to write the number in fraction form as hundredths ($4\frac{70}{100}$).

Watch for common errors such as saying that $4\frac{7}{10}$ is equivalent to $4\frac{7}{100}$ instead of $4\frac{70}{100}$.

TERMS

Addend: A number that is added to another number. For example, in $3 + 2 = 5$, the numbers 3 and 2 are the addends.

Decimal form: A number written in the form of a decimal. For example, 23 hundredths in decimal form is 0.23.

Decimal number: A number written using place value units that are powers of 10, such as hundreds, tens, ones, tenths, and hundredths. For example, 2.1 and 5.16 are decimal numbers, as are 245 and 31.

Fraction form: A number written in the form of a fraction. For example, 23 hundredths in fraction form is $\frac{23}{100}$.

Mixed number: A number made up of a whole number and a fraction (e.g., $13\frac{42}{100}$).