

G5-M1-Lesson 10

Note: Subtracting decimals is just like subtracting whole numbers—subtract like units. Study the examples below.

5 apples $-$ 1 apple = 4 apples

5 ones $-$ 1 one = 4 ones

5 tens $-$ 1 ten = 4 tens

5 hundredths $-$ 1 hundredth = 4 hundredths

1. Subtract.

a. 7 tenths $-$ 4 tenths = 3 tenths

I'll subtract the like units, tenths, to get 3 tenths.

The standard form is $0.7 - 0.4 = 0.3$.

I'll look at the units carefully.
A *hundred* is different than a *hundredth*.

I'll subtract 3 hundredths from 8 hundredths,
and get 5 hundredths.

b. 4 hundreds 8 hundredths $-$ 3 hundredths = 4 hundreds 5 hundredths

The standard form is $400.08 - 0.03 = 400.05$.

1.7 is the same as 1.70.

2. Solve $1.7 - 0.09$ using the standard algorithm.

When setting up the algorithm, I need to be sure to subtract like units. Therefore, I'll line up the ones with the ones, the tenths with the tenths, etc.

$$\begin{array}{r} 1.70 \\ - 0.09 \\ \hline 1.61 \end{array}$$

There are 0 hundredths, so I can't subtract 9 hundredths. I'll rename 7 tenths as 6 tenths 10 hundredths.

10 hundredths minus 9 hundredths is equal to 1 hundredth.

6 ones 3 tenths = 6.3 = 6.30
58 hundredths = 0.58

There are 0 hundredths, so I can't subtract 8 hundredths. I'll rename 3 tenths as 2 tenths 10 hundredths.

3. Solve 6 ones 3 tenths – 58 hundredths.

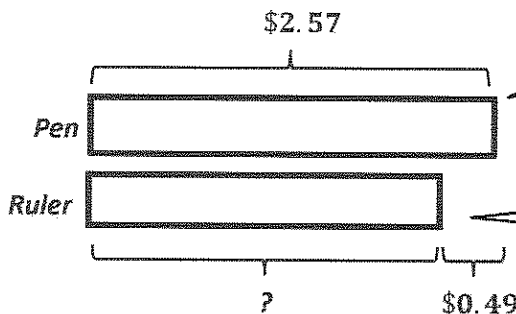
I'll rename 6 ones as 5 ones 10 tenths. 10 tenths, plus the 2 tenths already there, makes 12 tenths.

$$\begin{array}{r} 5 \quad 12 \quad 10 \\ \cancel{6} \quad \cancel{3} \quad \cancel{0} \\ - 0 \quad 5 \quad 8 \\ \hline 5 \quad 7 \quad 2 \end{array}$$

10 hundredths minus 8 hundredths is equal to 2 hundredths.

Students can solve using a variety of methods. This problem may not require the standard algorithm as some students can compute mentally.

4. A pen costs \$2.57. It costs \$0.49 more than a ruler. Kayla bought two pens and one ruler. She paid with a ten-dollar bill. How much change does Kayla get? Use a tape diagram to show your thinking.



I'll draw a tape diagram to represent the pen and label it \$2.57.

Since the pen costs more than the ruler, I'll draw a shorter tape for the ruler.

The difference between the pen and the ruler is \$0.49.

I'll find the price of the ruler. It's \$2.08.

$$\begin{array}{r} 0 \quad 9 \quad 9 \quad 10 \\ \$ \cancel{2} \quad \cancel{5} \quad \cancel{7} \quad \cancel{0} \\ - \quad \$7 \quad 2 \quad 2 \\ \hline \$2 \quad 7 \quad 8 \end{array}$$

$$\begin{array}{r} 4 \quad 17 \\ \$2 \quad \cancel{5} \quad \cancel{7} \\ - \$0 \quad 4 \quad 9 \\ \hline \$2 \quad 0 \quad 8 \end{array}$$

$$\$2.57 + \$2.57 + \$2.08 = \$7.22$$

I'll add the price of two pens and one ruler together. It's \$7.22.

$$\begin{array}{r} \$2 \quad 5 \quad 7 \\ \$2 \quad 5 \quad 7 \\ + \$2 \quad 0 \quad 8 \\ \hline \$7 \quad 2 \quad 2 \end{array}$$

Kayla's change is \$2.78.

I'll subtract the total cost from \$10. Kayla's change will be \$2.78.

Note: Encourage your child to use a variety of strategies when solving. The standard algorithm may not always be necessary for some students. Ask them about different ways to solve the problem. Below you'll find some alternate solution strategies that could be applied.

$$\$2.57 + \$2.57 + \$2.08 = \$7.22$$

When finding the total cost of the 3 items, I can think of adding $\$2.50 + \$2.50 + \$2$, which is equal to $\$7$. Then I'll add the remaining $7\text{¢} + 7\text{¢} + 8\text{¢}$, which is 22¢ . The total then, is $\$7 + \$0.22 = \$7.22$. I can do all of this mentally!

Then when finding the amount of change Kayla gets, I can use another strategy to solve.

Instead of finding the difference of $\$10$ and $\$7.22$ using the subtraction algorithm, I can count up from $\$7.22$.

$$\$7.22 \xrightarrow{+ 3\text{¢}} \$7.25 \xrightarrow{+ 75\text{¢}} \$8.00 \xrightarrow{+ \$2} \$10.00$$

3¢ more makes $\$7.25$.

3 quarters, or 75 cents, more makes $\$8$.

$\$2$ more makes $\$10$.

2 dollars, 3 quarters, and 3 pennies is $\$2.78$. That's what Kayla gets back.

Kayla gets $\$2.78$ back in change.