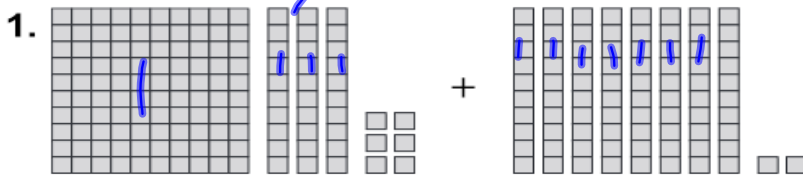


Lesson 2.4

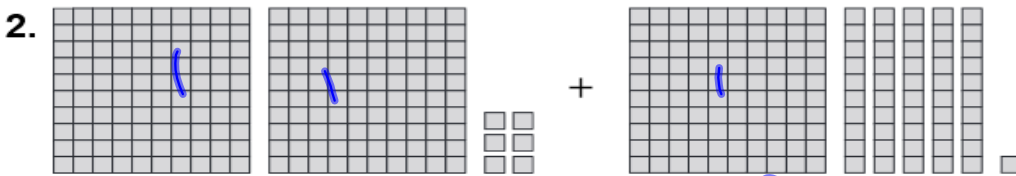
November 19, 2013

Lesson 2.4 Warm Up
For use before Lesson 2.4

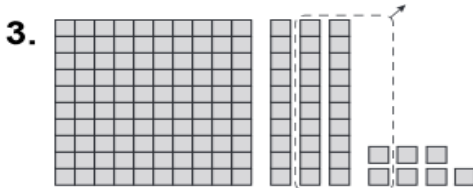
Write and evaluate the numerical expression modeled by the base ten blocks.



2.18



3.57



$1.37 - .22 = 1.15$

Lesson 2.4

November 19, 2013

Essential Question

How can you add and subtract decimals?

Lesson 2.4

November 19, 2013

LessonTarget

To be able to:

- use a formal rule to add and subtract decimals.

Self-Evaluation Rubric

Score	Description
4	I can teach other students how to use a formal rule to add and subtract decimals.
3	I can use a formal rule to add and subtract decimals.
2	I recognize a formal rule to add and subtract decimals. .
1	I do not know how to use a formal rule to add and subtract decimals.

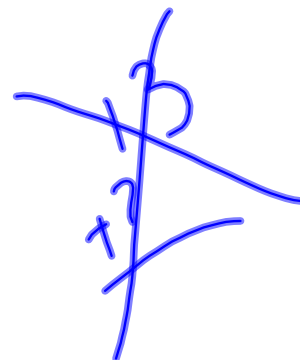
$$\begin{array}{r} 13. \\ + 7. \\ \hline 20. \end{array}$$

$$\begin{array}{r} 12. \\ - 10. \\ \hline 2. \end{array}$$

 **Key Idea**

Adding and Subtracting Decimals

To add or subtract decimals, write the numbers vertically and line up the decimal points. Then bring down the decimal point and add or subtract as you would with whole numbers.



The diagram shows two vertical arithmetic problems. The top one is $\begin{array}{r} 13. \\ + 7. \\ \hline \end{array}$ and the bottom one is $\begin{array}{r} 12. \\ - 10. \\ \hline \end{array}$. A diagonal line is drawn through both problems, indicating that this method of writing them is incorrect.

EXAMPLE 1 Adding Decimals

a. Add $8.13 + 2.76$.

Estimate $8.13 + 2.76 \approx 8 + 3 = 11$

Line up the decimal points.

$$\begin{array}{r} 8.13 \\ + 2.76 \\ \hline 10.89 \end{array}$$

Add as you would with whole numbers.

Reasonable? $10.89 \approx 11$ ✓

Study Tip

Be sure to add or subtract only digits that have the same place value.

b. Add $1.459 + 23.7$.

$$\begin{array}{r} 1 \\ 1.459 \\ + 23.700 \\ \hline 25.159 \end{array}$$

Insert zeros so that both numbers have the same number of decimal places.

EXAMPLE 2 Subtracting Decimals

a. Subtract $5.508 - 3.174$.

Estimate $5.508 - 3.174 \approx 6 - 3 = 3$

Line up the decimal points.

$$\begin{array}{r} 10 \\ 5.5\cancel{0}8 \\ - 3.174 \\ \hline 2.334 \end{array}$$

Subtract as you would with whole numbers.

Reasonable? $2.334 \approx 3$ ✓

b. Subtract $21.9 - 1.605$.

$$\begin{array}{r} \\ 8010 \\ 21.9\cancel{0}\cancel{0} \\ - 1.605 \\ \hline 20.295 \end{array}$$

Insert zeros so that both numbers have the same number of decimal places.

TryIt!

Try numbers 1 - 6 on page 80 of
your Big Ideas Text Book.

EXAMPLE 3 Real-Life Application

Your meal at the school cafeteria costs \$3.45. Your friend's meal costs \$3.90. You pay for both meals with a \$10 bill. How much change do you receive?

Use a verbal model to solve the problem.

$$\begin{aligned}
 \text{amount of change} &= \text{amount given} - \left(\text{cost of your meal} + \text{cost of friend's meal} \right) \\
 &= 10.00 - (3.45 + 3.90) && \text{Substitute values.} \\
 &= 10.00 - 7.35 && \text{Add inside parentheses.} \\
 &= 2.65 && \text{Subtract.}
 \end{aligned}$$

••• So, you receive \$2.65.

EXAMPLE 4 Real-Life Application



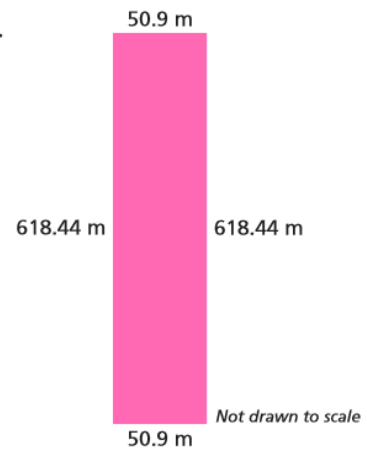
The Lincoln Memorial Reflecting Pool is approximately rectangular. Its width is 50.9 meters, and its length is 618.44 meters. You walk the perimeter of the pool. About how many meters do you walk?

Draw a diagram and label the dimensions.

Find the sum of the side lengths.

$$\begin{array}{r}
 112 \\
 618.44 \\
 50.90 \\
 618.44 \\
 + 50.90 \\
 \hline
 1338.68
 \end{array}$$

- So, you walk about 1339 meters.



TryIt!

Try numbers 7 & 8 on page 81
of your Big Ideas Text Book.


Assignment

Do numbers:

9, 12, 15, 20, 23, 24, 30, & 35
on pages 82 & 83 of your Big
Ideas Text Book.

OnYourOwn

OPEN-ENDED Write three decimals that have a sum of 27.905.

 The length of a rectangle is twice the width. The perimeter of the rectangle can be expressed as $3 \cdot 13.7$. What is the width?

Lesson 2.4

November 19, 2013

Essential Question

How can you add and subtract decimals?

Lesson 2.4

November 19, 2013

LessonTarget

To be able to:

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Self-Evaluation Rubric

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Homework

Big Ideas Record and
Pracce Journal

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