Learning Objective: Students will be able to use a formal rule to add and subtract decimals.

Warm Up

3. $\dfrac{9}{11} + \dfrac{1}{11}$

7. $\dfrac{6}{19} + \dfrac{2}{3}$

11. $\dfrac{2}{11} + \dfrac{1}{2}$

4. $\dfrac{1}{3} + \dfrac{2}{17}$

8. $\dfrac{1}{3} + \dfrac{1}{6}$

12. $\dfrac{4}{11} + \dfrac{3}{8}$

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Warm Up Answers

3. $\dfrac{9}{11} + \dfrac{1}{11}$

$= \dfrac{10}{11}$

7. $\dfrac{6}{19} + \dfrac{2}{3}$

$= \dfrac{56}{57}$

11. $\dfrac{2}{11} + \dfrac{1}{2}$

$= \dfrac{15}{22}$

4. $\dfrac{1}{3} + \dfrac{2}{17}$

$= \dfrac{23}{51}$

8. $\dfrac{1}{3} + \dfrac{1}{6}$

$= \dfrac{1}{2}$

12. $\dfrac{4}{11} + \dfrac{3}{8}$

$= \dfrac{65}{88}$

Lesson 2.4   October 16, 2014

Essential Question:

How can you add and subtract decimals?

Lesson 2.4   October 16, 2014

Lesson Objective:

Students will be able to:

use a formal rule to add and subtract decimals.

Self-Evaluation Scale

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, but still need help to use a formal rule to add and subtract decimals.
1	I do not know how to use a formal rule to add and subtract decimals.

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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.

Learning Objective: Students will be able to use a formal rule to add and subtract decimals.

3.7 $+ 11.785$ $+ 11.785$

3.17

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? $10.89 \approx 11$ ✓

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.

Learning Objective: Students will be able to use a formal rule to add and subtract decimals.

$$4.1 - 2$$

$$\begin{array}{r} 4.1 \\ -\ 2 \\ \hline 2.1 \end{array}$$

2   Subtracting Decimals

a. Subtract 5.508 − 3.174.   **Estimate** $5.508 - 3.174 \approx 6 - 3 = 3$

Line up the decimal points.

$$\begin{array}{r} {}^{4\ 10} \\ 5.5\cancel{0}8 \\ -\ 3.1\,7\,4 \\ \hline 2.3\,3\,4 \end{array}$$

Subtract as you would with whole numbers.

Reasonable? $2.334 \approx 3$ ✓

b. Subtract 21.9 − 1.605.

$$\begin{array}{r} {}^{9} \\ {}^{8\ \cancel{10}10} \\ 21.9\cancel{0}\cancel{0} \\ -\ 1.6\,0\,5 \\ \hline 20.2\,9\,5 \end{array}$$

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

Learning Objective: Students will be able to use a formal rule to add and subtract decimals.

OYO!

Add or subtract.

1. $4.206 + 10.85$ 2. $15.5 + 8.229$ 3. $78.41 + 90.99$

4. $6.34 - 5.33$ 5. $27.9 - 0.905$ 6. $18.626 - 13.88$

Learning Objective: Students will be able to use a formal rule to add and subtract decimals.

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?
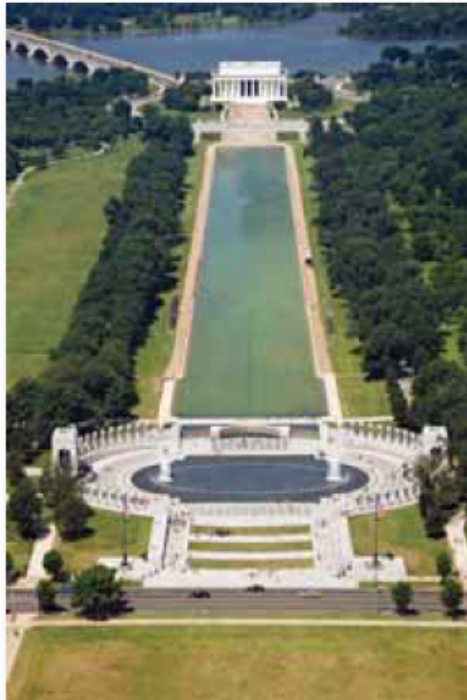
Use a verbal model to solve the problem.

$$\frac{\text{amount of}}{\text{change}} = \frac{\text{amount}}{\text{given}} - \left(\frac{\text{cost of}}{\text{your meal}} + \frac{\text{cost of}}{\text{friend's meal}} \right)$$

$$= 10.00 - (3.45 + 3.90) \qquad \text{Substitute values.}$$

$$= 10.00 - 7.35 \qquad \text{Add inside parentheses.}$$

$$= 2.65 \qquad \text{Subtract.}$$

So, you receive $2.65.

October 16, 2014 Period 4 Lesson 2.4

Learning Objective: Students will be able to use a formal rule to add and subtract decimals.
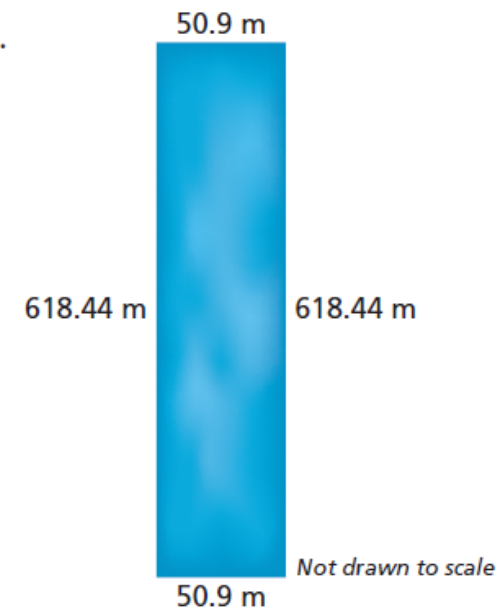
4 **Real-Life Application**

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.

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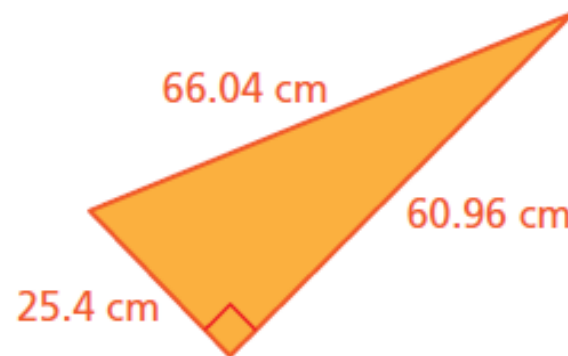+ \quad 50.90 \\
\hline
1338.68
\end{array}
$$

⁚• So, you walk about 1339 meters.

50.9 m

618.44 m   618.44 m

Not drawn to scale

50.9 m

Learning Objective: Students will be able to use a formal rule to add and subtract decimals.

OYO 2!

7. **WHAT IF?** In Example 3, your meal costs $4.10 and your friend's meal costs $3.65. You pay for both meals with a $20 bill. How much change do you receive?

8. Find the perimeter of the triangle.
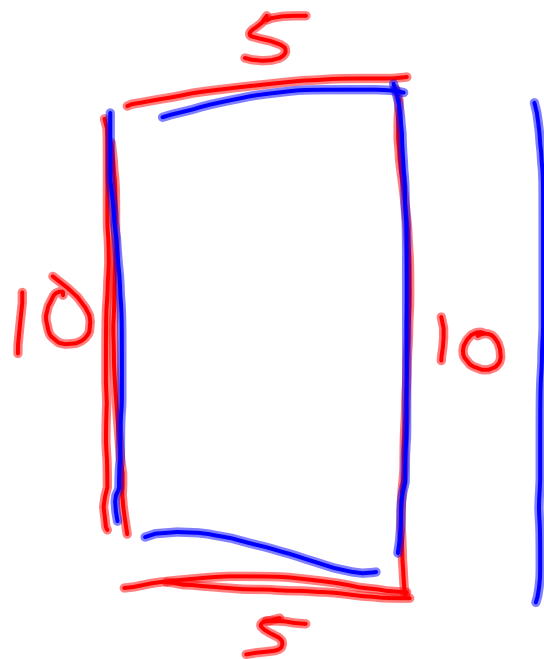
66.04 cm

60.96 cm

25.4 cm

Learning Objective: Students will be able to use a formal rule to add and subtract decimals.

Assignment

Complete problems:

5, 9, 12, 16, 23, 24, 28, 30, & 35

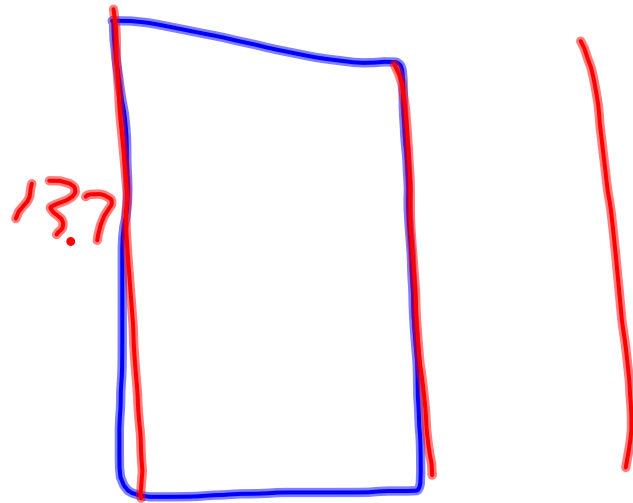on pages 82 & 83 in your Big Ideas Text Book.

$$5+5$$

$$10 + 10 + 10$$

$$3 \cdot 10$$

$$3 \cdot 13.7$$

13.7

Learning Objective: Students will be able to use a formal rule to add and subtract decimals.

Lesson 2.4   October 16, 2014

Essential Question:

How can you add and subtract decimals?

Lesson 2.4

October 16, 2014

Lesson Objective:

Students will be able to:

use a formal rule to add and subtract decimals.

Self-Evaluation Scale

Score	Description
4	I can teach other students how to use a model and a formal rule to divide with mixed numbers.
3	I can use a model and a formal rule to divide with mixed numbers.
2	I recognize, but still need help to use a model and a formal rule to divide with mixed numbers.
1	I do not know how to use a model and a formal rule to divide with mixed numbers.

October 16, 2014 Period 4 Lesson 2.4

Learning Objective: Students will be able to use a formal rule to add and subtract decimals.

Homework

In your Big Ideas Record and Practice Journal page 46.