1.) Use the Pythagorean Theorem \((a^2 + b^2 = c^2)\) to determine the length of the missing side.

2.) Determine the perimeter and area of the right triangle.
Adding and Subtracting Positive Rational Numbers

What is a rational number?

\[ \frac{a}{b} \quad \text{integers} \quad b \neq 0 \]

Rational Number: \( 5 \quad -1\frac{2}{5} \quad 0.25 \quad 0.6\overline{6} \)

\[ \downarrow \quad \downarrow \quad \downarrow \]

Fractional Form: \( \frac{5}{1} \quad -\frac{7}{5} \quad \frac{1}{4} \)

Any number that can be written as a fraction.
Adding and Subtracting Rational Numbers Includes:

6 + 8

1/4 + 3/7

1.5 - 0.78

Today's Focus
Adding and Subtracting Decimals

23.6 + 1.73

Line up the decimal points or get an incorrect answer.
Practice Problems

7.88 - 6.5 = ________  2.03 + .7 = ________

5.6 + 3.72 = ________  3.8 - 1.26 = ________

9 - .04 = ______________  8.73 - 2.52 = ________

1 - .06 = ______________  9.9 + .17 = ________
Practice Problems

$7.88 - 6.5 = 1.38$
$5.6 + 3.72 = 9.32$
$9 - .04 = 8.96$
$1 - .06 = 0.94$

$2.03 + .7 = 2.73$
$3.8 - 1.26 = 2.54$
$8.73 - 2.52 = 6.21$
$9.9 + .17 = 10.07$
Adding and Subtracting Fractions

**Adding/Subtracting Fractions with a Common Denominator**
1. Add/Subtract the numerators.
2. Keep the denominator the same.
3. Simplify if needed.

**Adding/Subtracting Fractions with Different Denominators**
1. Rewrite using a common denominator.
2. Add/Subtract the fractions.
3. Simplify if needed.

What are some examples of fractions with common denominators? different denominators?
Improper Fractions and Mixed Numbers

Based on these examples, how would you define improper fractions?

Based on these examples, how would you define mixed numbers?
Mixed Number ➞ Improper Fraction

1. Multiply the whole number times the denominator
2. Add your answer to the numerator
3. Put that number over the denominator

\[ 2 \frac{1}{2} \rightarrow \frac{5}{2} \]

When is it best to use mixed numbers rather than improper fractions?
Improper Fraction $\rightarrow$ Mixed Number

1. Divide the numerator by the denominator
2. Put the remainder over the denominator

Divide the numerator by the denominator

\[ 2 \div 5 = \frac{2}{4} \]

Write the remainder over the denominator

\[ \frac{1}{2} \]

\[ \frac{5}{2} \rightarrow 2\frac{1}{2} \]
Match the correct mixed number to improper fraction.

<table>
<thead>
<tr>
<th>1 1/2</th>
<th>10/3</th>
<th>3 3/4</th>
<th>3 1/2</th>
<th>2 3/5</th>
</tr>
</thead>
<tbody>
<tr>
<td>21/5</td>
<td>4 3/7</td>
<td>25/4</td>
<td>3 1/3</td>
<td>36/7</td>
</tr>
<tr>
<td>5 1/7</td>
<td>7/2</td>
<td>23/7</td>
<td>3/2</td>
<td>3 1/7</td>
</tr>
<tr>
<td>13/5</td>
<td>31/7</td>
<td>15/4</td>
<td>6 1/4</td>
<td>4 1/5</td>
</tr>
</tbody>
</table>
Write your answers in the simplest form.

\[
\frac{3}{9} + \frac{4}{9} = \text{___________}
\]

\[
\frac{5}{12} + \frac{6}{12} = \text{___________}
\]

\[
\frac{9}{14} + \frac{2}{14} = \text{___________}
\]

\[
\frac{1}{6} + \frac{3}{6} = \text{___________}
\]

\[
\frac{5}{8} - \frac{1}{7}
\]

\[
\frac{3}{4} + \frac{2}{5}
\]

\[
\frac{3}{7} - \frac{3}{7}
\]

\[
\frac{1}{3} + \frac{1}{2}
\]

*Write your answers as an improper fraction, if necessary.*
Fractions to Decimals

\[ \frac{5}{8} \quad \frac{7}{20} \quad \frac{1}{125} \]

Decimals to Fractions

0.08 \quad 0.125 \quad 0.9