Worksheet 1  Finding the Area of a Rectangle with Fractional Side Lengths

Complete.

1. Divide into 7 segments.
   Label each segment as a unit fraction.
   Mark \( \frac{4}{7} \) on the line.

2. Divide into 10 segments.
   Label each segment as a unit fraction.
   Mark \( \frac{3}{10} \) on the line.
   Mark \( \frac{7}{10} \) on the line.
Calculate the area.

3. Label each small square as a unit fraction.

Mark $\frac{1}{4}$ and $\frac{3}{4}$ on the sides of the rectangle.

Shade the area of the rectangle with sides of $\frac{1}{4}$ unit and $\frac{3}{4}$ unit.

Area of the shaded rectangle = _________ square units

4. Label each small square as a unit fraction.

Mark $\frac{3}{8}$ and $\frac{5}{8}$ on the sides of the rectangle.

Shade the area of the rectangle with sides of $\frac{3}{8}$ unit and $\frac{5}{8}$ units.

Area of the shaded rectangle = _________ square units
Find the area of each rectangle.

5. 

<table>
<thead>
<tr>
<th>Length</th>
<th>Width</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 ft</td>
<td>3 ft</td>
<td></td>
</tr>
</tbody>
</table>

Length = 7 ft 
Width = 3 ft 
Area = 7 ft × 3 ft = 21 ft²

6. 

<table>
<thead>
<tr>
<th>Length</th>
<th>Width</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 ft</td>
<td>5 ft</td>
<td></td>
</tr>
</tbody>
</table>

Length = 9 ft 
Width = 5 ft 
Area = 9 ft × 5 ft = 45 ft²

Find the area of each shaded rectangle.

7. 

Area = 3/4 yd × 1/3 yd 
= 1/4 yd²
8. 

Find the area of each rectangle.

9. 

\[ \text{Area} = \frac{5}{9} \text{ in.} \times \frac{2}{3} \text{ in.} \]
\[ = \frac{10}{27} \text{ in.}^2 \]

10. 

\[ \text{Area} = \frac{4}{9} \text{ yd} \times \frac{3}{10} \text{ yd} \]
\[ = \frac{12}{90} \text{ yd}^2 \]

Area = _____ ft × _____ ft

= _______ ft²
Worksheet 2  Base and Height of a Triangle

Name the sides of the triangle.

1. 
   \[
   \begin{array}{c}
   A \\
   B \\
   C \\
   \end{array}
   \]
   Sides: ________
   ________
   ________

2. 
   \[
   \begin{array}{c}
   A \\
   B \\
   C \\
   \end{array}
   \]
   Sides: ________
   ________
   ________

3. 
   \[
   \begin{array}{c}
   A \\
   B \\
   C \\
   \end{array}
   \]
   Sides: ________
   ________
Name the height for the given base of each triangle.

Example

In triangle $ABC$, if the base is $BC$, the height is $AD$.

4. In triangle $PQR$, if the base is $PQ$, the height is ________.

5. In triangle $ABC$, if the base is $AC$, the height is ________.

6. In triangle $PQR$, if the base is $PQ$, the height is ________.
Name the height for the given base of each triangle.

Example

In triangle $PQR$, if the base is $\overline{QR}$, the height is $\overline{PS}$.

7. In triangle $ABC$, if the base is $\overline{AB}$, the height is __________.

8. In triangle $LMN$, if the base is $\overline{LN}$, the height is __________.

9. In triangle $ABC$, if the base is $\overline{AC}$, the height is __________.
Name the base for the given height of each triangle.

**Example**

In triangle $EFG$, if the height is $EH$, the base is $FG$.

10. In triangle $EFG$, if the height is $EF$, the base is ________.

11. In triangle $JKL$, if the height is $KM$, the base is ________.

12. In triangle $JKL$, if the height is $LM$, the base is ________.
Name the base for the given height of each triangle.

**Example**

In triangle \( PQR \), if the height is \( PS \),
the base is \( QR \).

13. In triangle \( PQR \), if the height is \( PS \),
the base is ________.

14. In triangle \( WXY \), if the height is \( WZ \),
the base is ________.

15. In triangle \( WXY \), if the height is \( XZ \),
the base is ________.
Complete.

16. In triangle $ABC$,

   a. If the height is $AY$, the base is ________.
   b. If the height is $BZ$, the base is ________.
   c. If the height is $CX$, the base is ________.

For each triangle, the base is given. Use a drawing triangle to draw and label the height.

**Example**

17. 

18.
Worksheet 3  Finding the Area of a Triangle

Find the area of each rectangle.

1.

<table>
<thead>
<tr>
<th>5 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 cm</td>
</tr>
</tbody>
</table>

Length = _________ cm
Width = _________ cm
Area = _________ \times _________
      = _________ cm^2

2.

<table>
<thead>
<tr>
<th>9 in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 in.</td>
</tr>
</tbody>
</table>

Length = _________ in.
Width = _________ in.
Area = _________ \times _________
      = _________ in.^2
The area of triangle $ABD$ is given. Find the area of rectangle $ABCD$.

The area of rectangle $ABCD$ is double the area of triangle $ABD$.

Example

Area of the triangle $= 8 \text{ cm}^2$

Area of the rectangle $= \frac{2}{2} \times 8$

$= 16 \text{ cm}^2$

3. Area of the triangle $= 28 \text{ m}^2$

Area of the rectangle $= \underline{\phantom{2}} \times \underline{\phantom{8}}$

$= \underline{\phantom{2}} \text{ m}^2$

4. Area of the triangle $= 12 \text{ ft}^2$

Area of the rectangle $= \underline{\phantom{2}} \times \underline{\phantom{8}}$

$= \underline{\phantom{2}} \text{ ft}^2$

5. Area of the triangle $= 16 \text{ in.}^2$

Area of the rectangle $= \underline{\phantom{2}} \times \underline{\phantom{8}}$

$= \underline{\phantom{2}} \text{ in.}^2$
Find the area of each shaded triangle.

6. 

The area of the shaded triangle is half the area of the rectangle.

Area of rectangle $ABCD = \frac{1}{2} \times \text{______} \times \text{______} = \text{______ yd}^2$

Area of triangle $ACD = \frac{1}{2} \times \text{______} = \text{______ yd}^2$

7. 

Area of rectangle $ABCD = \frac{1}{2} \times \text{______} \times \text{______} = \text{______ m}^2$

Area of triangle $BCD = \frac{1}{2} \times \text{______} = \text{______ m}^2$
Find the area of each shaded triangle.

**Example**

Base = 12 cm
Height = 5 cm
Area of triangle \(ABC = \frac{1}{2} \times 12 \times 5\)
= 30 cm\(^2\)

8. Base = _________ in.
Height = _________ in.
Area of triangle \(ACD = \frac{1}{2} \times \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}\)
= _________ in.\(^2\)
Find the area of the shaded triangle.

9. 

Base = ________ cm
Height = ________ cm
Area of triangle ABC = \( \frac{1}{2} \times \) ________ \( \times \) ________
= ________ cm\(^2\)

Solve. Show your work.

10. In the figure, \( AB = 14 \) inches, \( AC = 16 \) inches, \( AY = 9 \) inches, and \( BZ = 10 \) inches. Find the area of triangle \( ABC \).
Solve. Show your work.

11. In the figure, $PR = 24$ meters, $RQ = 16$ meters, and $RB = 12$ meters. Find the area of triangle $PQR$.

12. The figure is formed by a rectangle and a square. Find the area of the shaded part of the figure.