Area of a Rectangle

To find the area of a rectangle, use the formula \( \text{length} \times \text{width} = \text{area} \). This formula is often written as \( l \times w = A \).

The rectangle pictured here has a length of 10 cm and a width of 8 cm.

\[ l = 10 \text{ cm} \]
\[ w = 8 \text{ cm} \]
\[ 10 \text{ cm} \times 8 \text{ cm} = 80 \text{ cm}^2 \]

Note that the area’s unit is written as \( \text{cm}^2 \). This is said as “square centimeters” or “centimeters squared”.

Find the area of each rectangle.

a. \[ 2.5 \text{ cm} \times 0.25 \text{ cm} = 0.625 \text{ cm}^2 \]

b. \[ 1 \frac{1}{2} \text{ ft} \times 12 \frac{1}{2} \text{ ft} = 18 \text{ ft}^2 \]

c. \[ 1.8 \text{ km} \times 2.0 \text{ km} = 3.6 \text{ km}^2 \]

d. \[ 6 \frac{1}{2} \text{ m} \times 4 \text{ m} = 26 \text{ m}^2 \]

e. \[ 3.5 \text{ mm} \times 30.0 \text{ mm} = 105 \text{ mm}^2 \]

f. \[ 4 \frac{3}{4} \text{ mi} \times 5 \text{ mi} = 23 \text{ mi}^2 \]

Challenge: Find the area of the polygon. All corners are 90°. Use the back if you need work space.

\[ 0.6 \text{ m} \times 2.4 \text{ m} = 1.44 \text{ m}^2 \]
\[ 0.4 \text{ m} \times 0.4 \text{ m} = 0.16 \text{ m}^2 \]
\[ 0.4 \text{ m} \times 0.4 \text{ m} = 0.16 \text{ m}^2 \]
\[ 0.6 \text{ m} \times 1.0 \text{ m} = 0.6 \text{ m}^2 \]
\[ 0.4 \text{ m} \times 1.0 \text{ m} = 0.4 \text{ m}^2 \]

\[ 0.4 \text{ m} \times 0.4 \text{ m} = 0.16 \text{ m}^2 \]

Total area: \( 1.44 + 0.16 + 0.16 + 0.6 + 0.4 + 0.16 = 3.6 \text{ m}^2 \)
To find the area of a rectangle, use the formula \( \text{length} \times \text{width} = \text{area} \). This formula is often written as \( l \times w = A \).

The rectangle pictured here has a length of 10 cm and a width of 8 cm.

\[
\begin{align*}
\text{l} & = 10 \text{ cm} \\
\text{w} & = 8 \text{ cm} \\
10 \text{ cm} \times 8 \text{ cm} & = 80 \text{ cm}^2 
\end{align*}
\]

Note that the area’s unit is written as \( \text{cm}^2 \). This is said as “square centimeters” or “centimeters squared”.

Find the area of each rectangle.

---

**a.**

\[
\frac{2.5 \text{ cm}}{0.25 \text{ cm}} = 10 \text{ cm} \times 0.25 \text{ cm} = 0.625 \text{ cm}^2
\]

**b.**

\[
\frac{7.5 \text{ ft}}{1.2 \text{ ft}} = 7.5 \text{ ft} \times 1.2 \text{ ft} = 93\frac{3}{4} \text{ in}^2
\]

**c.**

\[
\frac{1.8 \text{ km}}{2.0 \text{ km}} = 1.8 \text{ km} \times 2.0 \text{ km} = 3.6 \text{ km}^2
\]

**d.**

\[
\frac{6.25 \text{ in}}{3.2 \text{ in}} = 6.25 \text{ in} \times 3.2 \text{ in} = 42\frac{1}{4} \text{ in}^2
\]

**e.**

\[
\frac{3.5 \text{ mm}}{30.0 \text{ mm}} = 3.5 \text{ mm} \times 30.0 \text{ mm} = 105 \text{ mm}^2
\]

**f.**

\[
\frac{4.375 \text{ mi}}{5 \text{ mi}} = 4.375 \text{ mi} \times 5 \text{ mi} = 23\frac{3}{4} \text{ mi}^2
\]

**Challenge:** Find the area of the polygon. All corners are 90°. Use the back if you need work space.

\[
\begin{align*}
\text{area of A} & = 2.4 \times 1.6 = 3.84 \text{ m}^2 \\
\text{area of B} & = 1.0 \times 0.4 = -0.40 \text{ m}^2 \\
\text{area of C} & = 0.4 \times 0.4 = +0.16 \text{ m}^2
\end{align*}
\]

\[
\begin{align*}
\text{area of A} & = 3.84 \text{ m}^2 \\
\text{area of B} & = -0.40 \text{ m}^2 \\
\text{area of C} & = +0.16 \text{ m}^2
\end{align*}
\]

\[
\begin{align*}
\text{area of A} + \text{area of B} + \text{area of C} & = 3.84 \text{ m}^2 - 0.40 \text{ m}^2 + 0.16 \text{ m}^2 \\
& = 3.60 \text{ m}^2
\end{align*}
\]