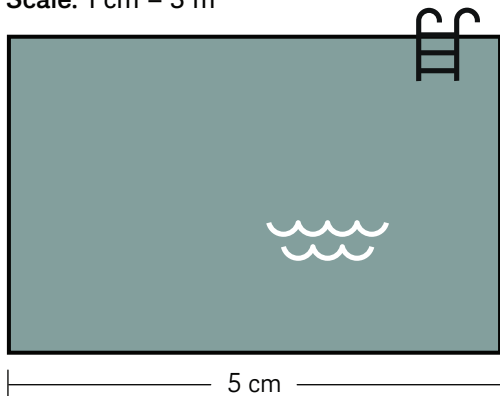


# Find Dimensions Using Scale Drawings

A **scale drawing** is a proportional drawing of an object. The **scale** compares the dimensions in the drawing to the object's actual dimensions. You can use a scale drawing to determine the actual dimensions of an object.

**Let's try it!** Find the actual length of the swimming pool using the scale drawing below.

Scale: 1 cm = 3 m



First, write the scale as a ratio of actual length to drawing length.

$$\frac{3 \text{ m}}{1 \text{ cm}}$$

Next, write and solve a proportion. Set the scale ratio equal to the ratio of the actual length of the pool to the drawing length.

$$\frac{3}{1} = \frac{x}{5} \quad \begin{array}{l} \leftarrow \text{actual length (m)} \\ \leftarrow \text{drawing length (cm)} \end{array}$$

$$\frac{3}{1} \cdot 5 = \frac{x}{5} \cdot 5$$

$$15 = x$$

So, the actual length of the swimming pool is 15 meters.

**Try it yourself!** Answer each question using the scale.

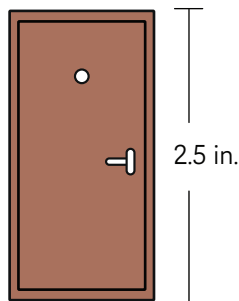
1. What is the actual length of the painting?

Scale: 1 in. = 2 ft.



2. What is the actual height of the door?

Scale: 1 in. = 2.5 ft.



3. On a map, the distance between Noah's house and his aunt's house is 6.5 centimeters. If the map has a scale of 1 centimeter = 5 kilometers, what is the actual distance between the two houses?

4. The length of a car on a scale drawing is 3.25 inches. If the scale drawing has a scale of 1 inch = 4 feet, what is the actual length of the car?