

ANSWERS

SCALE DRAWINGS

Instructions: Read each problem carefully, establish a proportion, solve for the actual size, and show your work with the correct units in your answer.

Exercise 1: Maria is drawing a ship using a scale of 4 inches : 20 meters. She draws a ship that is 10 inches long. How long is the actual ship?

Solution: The scale is 4 inches : 20 meters. This means 4 inches represent 20 meters. If the drawing is 10 inches long, then:

$$\text{Actual height} = \left(\frac{10 \text{ inches}}{4 \text{ inches}}\right) \times 20 \text{ meters} = 2.5 \times 20 = 50 \text{ meters.}$$

Answer: The actual ship is 50 meters long.

Exercise 2: Jake is designing a statue using a scale of 6 centimeters : 18 meters. He creates a model that is 15 centimeters tall. How tall is the actual statue?

Solution: The scale is 6 centimeters : 18 meters. This means 6 centimeters represent 18 meters. If the model is 15 centimeters tall, then:

$$\text{Actual height} = \left(\frac{15 \text{ centimeters}}{6 \text{ centimeters}}\right) \times 18 \text{ meters} = 2.5 \times 18 = 45 \text{ meters.}$$

Answer: The actual statue is 45 meters tall.

Exercise 3: Emma is sketching a tower using a scale of 2 inches : 6 meters. Her sketch of the tower is 8 inches tall. How tall is the actual tower?

Solution: The scale is 2 inches : 6 meters. This means 2 inches represent 6 meters. If the sketch is 8 inches tall, then:

$$\text{Actual height} = \left(\frac{8 \text{ inches}}{2 \text{ inches}}\right) \times 6 \text{ meters} = 4 \times 6 = 24 \text{ meters.}$$

Answer: The actual tower is 24 meters tall.

How Did You Do? 😊 😐 😞