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: Sarah is designing a model of a tower using a scale of 3 inches : 9 meters. If the model of the tower is 12 inches tall, how tall is the actual tower?

Solution: The scale is 3 inches : 9 meters. This means 3 inches represent 9 meters. If the model is 12 inches tall, then:

Actual height = $\left(\frac{12\ inches}{3\ inches}\right)$ x 9 meters = 4×9 = 36 meters.

Answer: The actual tower is 36 meters tall.

Exercise 2: Pedro needs to draw a house using a scale of 1 centimeter : 5 meters. If the drawing of the house is 8 centimeters tall, how tall is the actual house?

Solution: The scale is 1 centimeter : 5 meters. This means 1 centimeter represents 5 meters. If the drawing is 8 centimeters tall, then:

Actual height = $8\ centimeters \times 5\ meters = 40\ meters.$

Answer: The actual house is 40 meters tall.

Exercise 3: Tom is asked to draw a bridge using a scale of 5 centimeters : 15 meters. He draws a bridge that is 20 centimeters long. How long is the actual bridge?

Solution: The scale is 5 centimeters : 15 meters. This means 5 centimeters represent 15 meters. If the drawing is 20 centimeters long, then:

Actual length = $\left(\frac{20\ centimeters}{5\ centimeters}\right)$ × 15 meters = 4 × 15 = 60 meters.

Answer: The actual bridge is 60 meters long.

HOW DID YOU DO?