

2/5/10

Objective



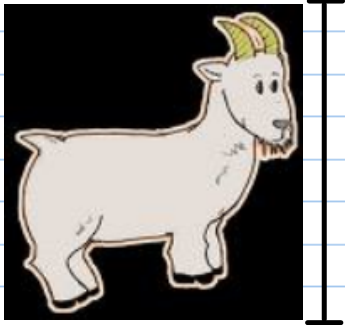
TSWBAT find
the scale of a
drawing and find
actual dimensions

Vocabulary

scale: the ratio that compares a length of a drawing or model to the length of the actual project.

* you write a scale in simplest form

Finding the Scale of a Drawing



In the drawing the height of the goat is 3 centimeters. The actual height of the goat is 90 centimeters. What is the scale of the drawing?

1. Put the drawing height over the actual height.

$$\frac{\text{drawing height}}{\text{actual height}} \longrightarrow \frac{3 \text{ cm}}{90 \text{ cm}}$$

2. Put in simplest form.

$$\frac{3}{90} = \frac{1 \text{ cm}}{30 \text{ cm}}$$

Practice:

The length of a drawing of an object is 6 inches.

The length of the actual object is 84 inches.

What is the scale of the drawing?

$$\frac{6 \text{ in}}{84 \text{ in}} = \frac{1 \text{ in}}{14 \text{ in}}$$

Finding Distances on a Map

The scale on a map is 1cm = 20 mi. The distance between Winfield and Aubuen is 6 centimeters. What is the actual distance?

1. Write the scale of ratio.

$$\frac{1\text{cm}}{20\text{mi}}$$

2. Write a proportion and use cross multiply and divide to solve.

$$\begin{array}{l} \text{map distance} \longrightarrow \\ \text{actual distance} \longrightarrow \end{array} \frac{1\text{cm}}{20\text{mi}} = \frac{6\text{cm}}{?}$$
$$6 \times 20 = 120\text{mi}$$

Practice:

Use the scale of 1 inch:9 inches to find the length or height.

1. a chair is 36 inches tall

$$\frac{1}{9} = \frac{x}{36} \quad 36 \div 9 = 4$$
$$x = 4$$

2. a whale is 468 inches long

$$\frac{1}{9} = \frac{x}{468} \quad 468 \div 9 = 52$$
$$x = 52$$

3. a lizard is 12 inches long

4. a stop sign is 117 inches tall

Homework

Practice and
Reteach 6-5

