1-31-19

Aim: SWBAT use the properties of similar triangles to find the missing lengths of similar figures.

HW: Quiz Thursday or Friday next week

Do Now: Packet Page 10

HOMEWORK

Solve algebraically.

1. You are building a model plane. The scale for the model is 1 inch = 125 feet. If the plane is 1,500 feet long, how long would the model be?

let x = the length of the model

$\frac{1 \text{ in.}}{125 \text{ ft.}} = \frac{x \text{ in.}}{1500 \text{ ft.}}$

$\frac{125x}{125} = \frac{1500}{125}$

$x = 12$

The model is 12 inches long.

2. The distance on a park map between the Merry-go-Round and the Log Flume is 3 inches. The scale was 1 inch = 525 yards. What is the actual distance between the Merry-go-Round and the Log Flume?

let x = the actual distance

$\frac{1 \text{ in.}}{525 \text{ yds}} = \frac{3 \text{ in.}}{x \text{ yds}}$

$x = 1575$

The actual distance is 1575 ft.

3. A dolphin in an aquarium is 12 feet long. A scale model of the dolphin is 3 inches long. What is the scale factor of the model?

$\left(\frac{\text{model}}{\text{actual}}\right) \quad \frac{3 \text{ in.}}{144 \text{ in}} \div \frac{3}{3} = \frac{1 \text{ in.}}{48 \text{ in}}$

The scale factor is 1 in on the model represents 48 in. on the actual dolphin.

4. Danielle is creating a scale drawing of her room. The rectangular room measures $20\frac{1}{2}$ feet by 25 feet. If her drawing uses the scale 1 inch represents 2 feet of the actual room, will her drawing fit on an $8\frac{1}{2}$ by 11 inch piece of paper?

let x = the drawing's length

$\frac{1 \text{ in.}}{2 \text{ ft.}} = \frac{x \text{ in.}}{20\frac{1}{2} \text{ ft.}}$

$\frac{2x}{2} = \frac{20\frac{1}{2}}{2}$

$x = 10\frac{1}{4}$

let y = the drawings width

$\frac{1 \text{ in.}}{2 \text{ ft.}} = \frac{x \text{ in.}}{25 \text{ ft.}}$

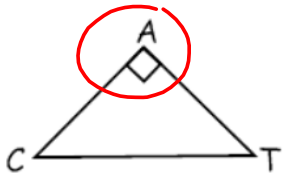
$\frac{2y}{2} = \frac{25}{2}$

$y = 12\frac{1}{2}$

No, the drawing will not fit on an $8\frac{1}{2}$ by 11 inch paper.

Aim: SWBAT use the properties of similar triangles to find missing lengths of similar figures.

Do Now: Use the given triangle to answer the following questions.



1) A triangle is named with three letters, name this triangle. △ACT

2) Line segments make up the sides of a triangle, line segments are named with two points. Name the three line segments in this triangle. $\overline{AC}$, $\overline{AT}$, $\overline{CT}$

3) Angles are formed where two line segments meet. Name the three angles in this triangle. ∠A, ∠C, ∠T

4) What type of triangle is this? (Acute, obtuse or right) right

SIMILAR FIGURES

- Have the same shape but different sizes
- Corresponding angles are ≅ (congruent)
- Corresponding sides are proportional.

Examples of Similar Figures