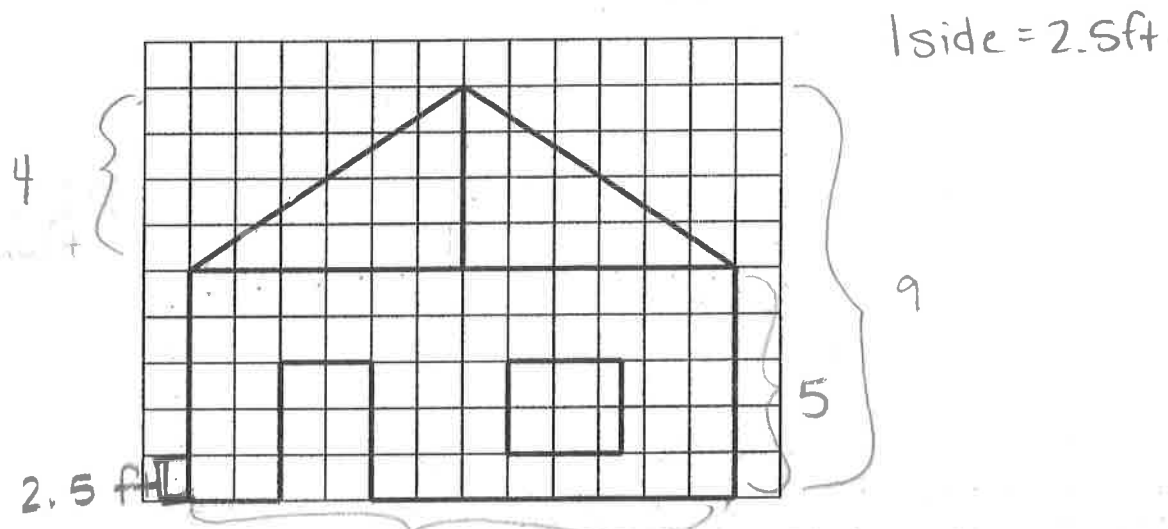


Similar Figures and Scale Factor (HW for ML #1) Name Key

Using the map distances, find the actual distance if the map uses the scale 4 in: 30 mi.

- 1) 2 inches $\frac{2 \text{ in}}{x} = \frac{4 \text{ in}}{30}$ 15 mi
 2) 7 inches $\frac{4}{30} = \frac{7}{x}$ 52.5 mi
 3) 5.5 inches $\frac{4}{30} = \frac{5.5}{x}$ 41.25 mi
 4) 10 inches $\frac{4}{30} = \frac{10}{x}$ 75 mi

The figure below is a scale drawing of a playhouse. In the drawing, the side of each square represents two and a half feet. Find the actual length of each segment.

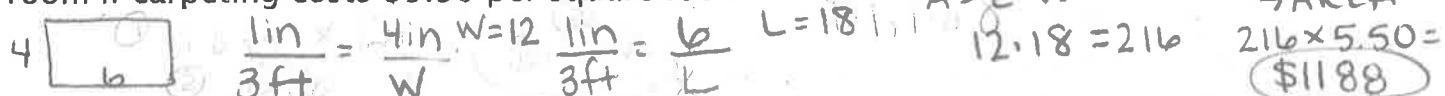


- 5) The width of the house. $\frac{1}{2.5} = \frac{12}{x}$ 30 ft
 6) The height of the house. $\frac{1}{2.5} = \frac{9}{x}$ 22.5 ft
 7) The height of the first floor. $\frac{1}{2.5} = \frac{5}{x}$ 12.5 ft
 8) The height of the roof. $\frac{1}{2.5} = \frac{4}{x}$ 10 ft

A picture uses a scale of 1 in: 15 ft. Find the picture length for each actual length.

- 9) 150 feet $\frac{1 \text{ in}}{15 \text{ ft}} = \frac{x}{150}$ 10 in
 10) 300 feet $\frac{1 \text{ in}}{15 \text{ ft}} = \frac{x}{300}$ 20 in
 11) 33.75 feet $\frac{1 \text{ in}}{15 \text{ ft}} = \frac{x}{33.75}$ 2.25 in
 12) 15,000,000 feet $\frac{1 \text{ in}}{15 \text{ ft}} = \frac{x}{15,000,000}$ 1,000,000 in

13) A scale drawing of a rectangular room has a length of six inches and a width of 4 inches. The drawing uses a scale of one inch to three feet. Find the cost to carpet the room if carpeting costs \$5.50 per square foot.

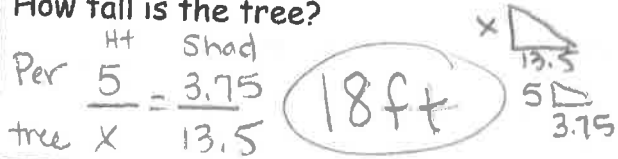


14) Your Social Studies teacher has asked you to draw a map of North Carolina. You decide that the scale you will use is 1 inch = 30 miles. The actual distance from Charlotte to Raleigh is 144 miles. How far apart should the cities be on your map?

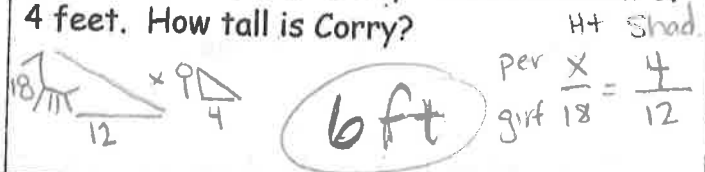
$\frac{1 \text{ in}}{30 \text{ mi}} = \frac{x}{144}$ $x = 4.8 \text{ in}$

For each example, sketch and label a picture to represent the situation. Then, set up a proportion to find the missing value(s).

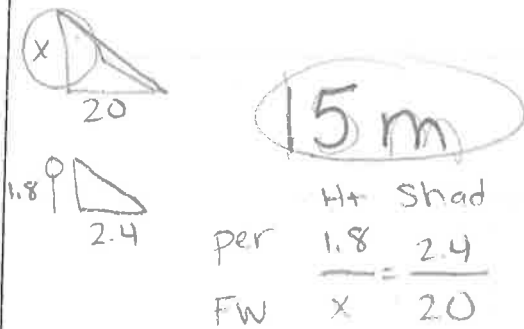
1.) A 5-foot tall person casts a 3.75 foot shadow. A tree casts a 13.5 foot shadow. How tall is the tree?



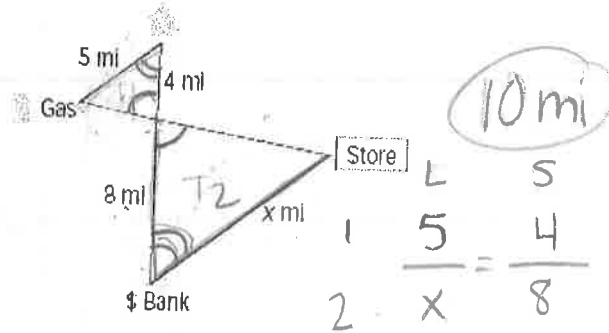
2.) A giraffe is 18 feet tall and casts a shadow of 12 feet. Corry casts a shadow of 4 feet. How tall is Corry?



3.) When a Ferris wheel casts a 20-meter shadow, a man 1.8 meters tall casts a 2.4-meter shadow. How tall is the Ferris wheel?



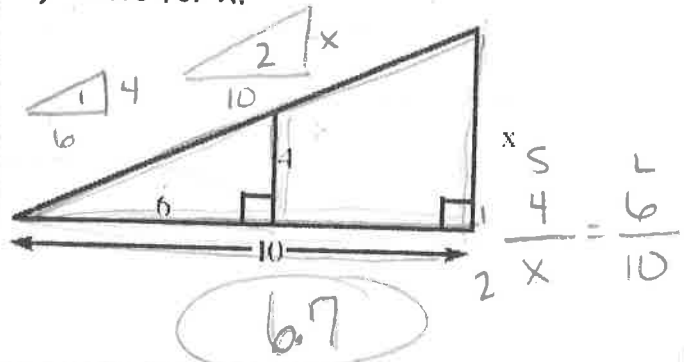
4.) How far is the store from the bank?



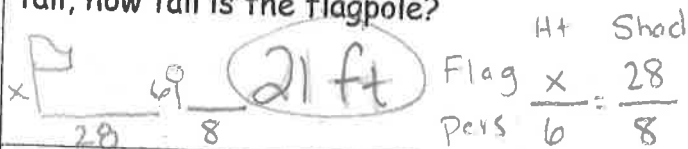
5.) A 9-foot ladder leans against a building six feet above the ground. At what height would a 15-foot ladder touch the building if both ladders form the same angle with the ground?



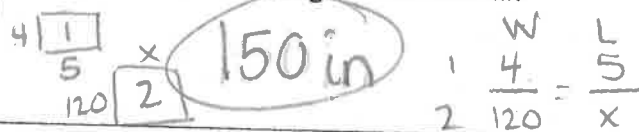
6.) Solve for x.



7. A flagpole casts a shadow 28 feet long. A person standing nearby casts a shadow eight feet long. If the person is six feet tall, how tall is the flagpole?



8. A photograph measuring four inches wide and five inches long is enlarged to make a wall mural. If the mural is 120 inches wide, how long is the mural?



9. Chris wants to reduce a triangular pattern with sides 16, 16 and 20 centimeters. If the longest side of the new pattern is to be 15 cm, how long should the other two sides be?

