

NAME: _____

Math _____, Period _____

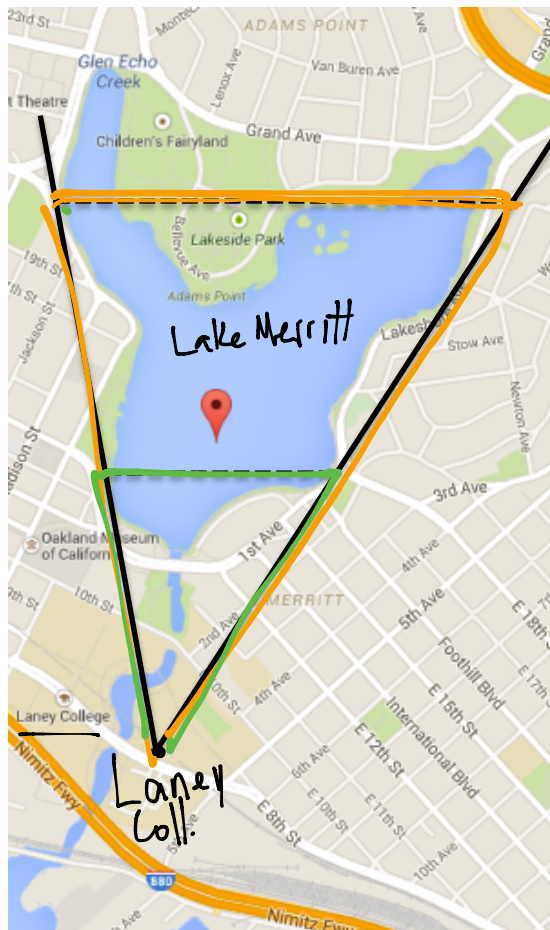
Mr. Rogove

Date: _____

LEARNING OBJECTIVE: We will apply our knowledge of similarity to solve problems. (G8M3L9)

CONCEPT DEVELOPMENT:

If we can show that similarity exists, we can apply our knowledge to get measures of unknown lengths.



- ① Distance of small dashed line
- ② Distance from Laney College to first dashed line and the far dashed line
- ③ Are dashed lines parallel?

GUIDED PRACTICE:**Steps for Using Similarity to Determine Unknown Distances**

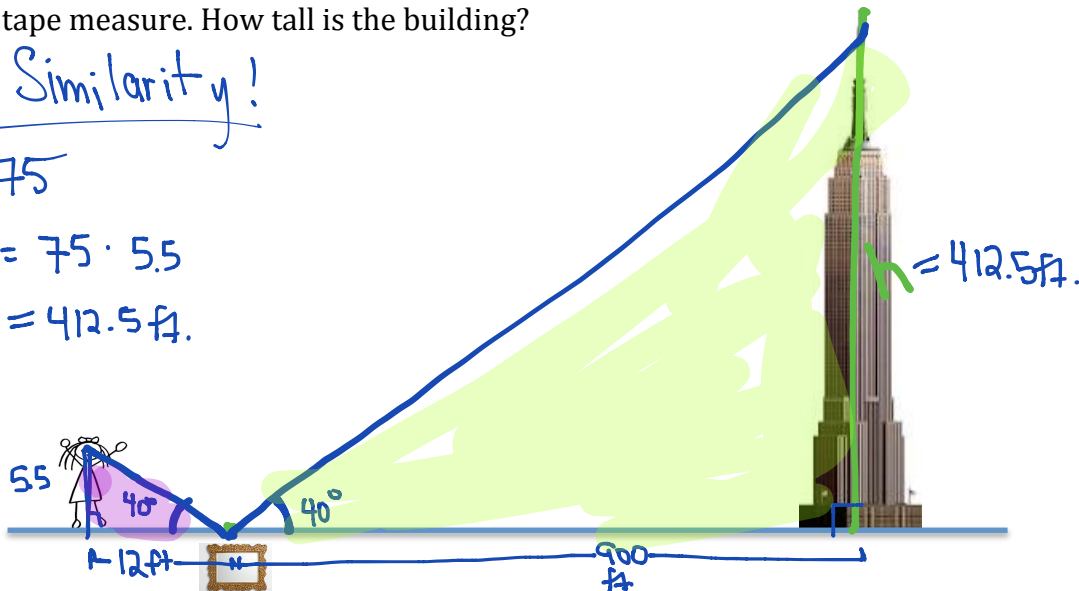
1. Look at the problem carefully.
2. Determine what information you will use to prove similarity.
3. Use similarity to find your missing measurement.

You want to determine the height of a building, and all you have is a mirror and a long tape measure. How tall is the building?

AA Similarity!

$$r = 75$$

$$h = 75 \cdot 5.5 \\ = 412.5 \text{ ft.}$$

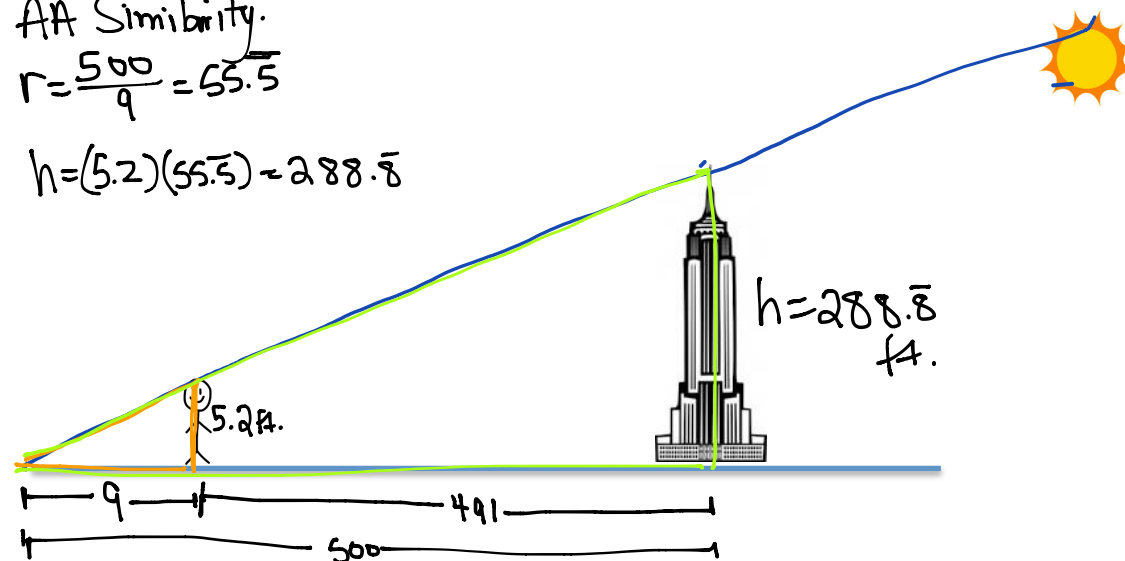


This time, you only have a long tape measure and the sunlight casting shadows...how can you determine the height of the building?

AA Similarity.

$$r = \frac{500}{9} = 55.\bar{5}$$

$$h = (5.2)(55.\bar{5}) = 288.\bar{8}$$



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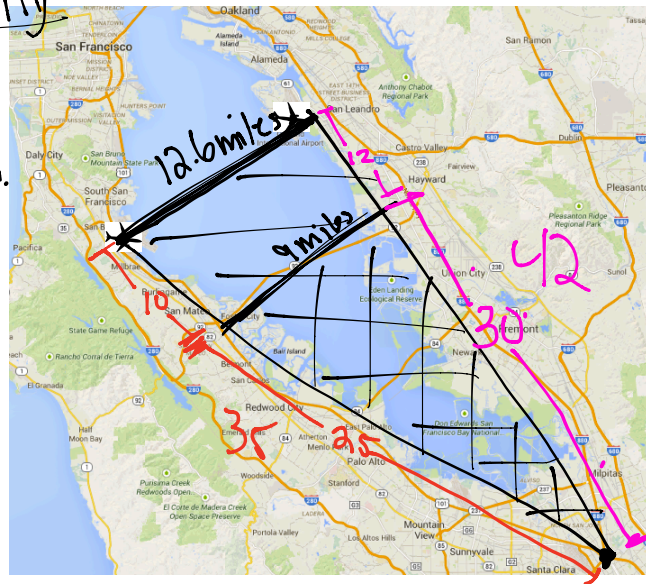
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How far is it from Oakland International Airport to San Francisco International Airport?

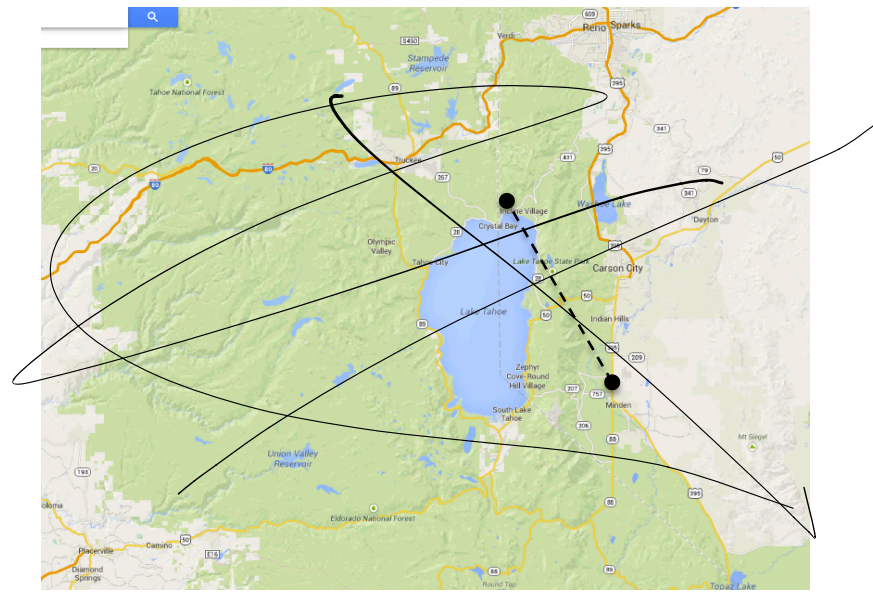
SAS Similarity

$$r = \frac{42}{30} = \frac{35}{25} = 1.4$$

$$9 \times 1.4 = 12.6 \text{ m.}$$

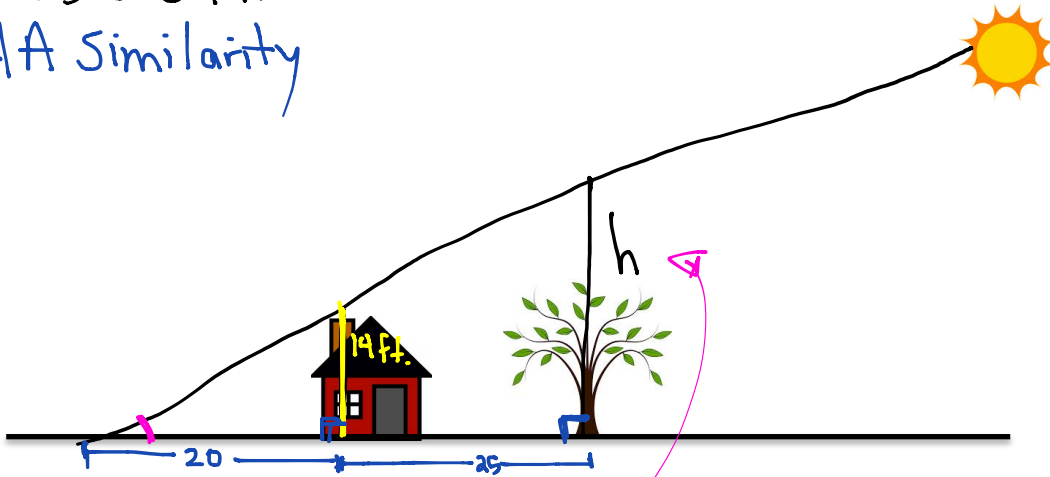


How far is it from South Lake Tahoe to Tahoe City? From Incline Village to Rte 395 just north of Minden it is 60 miles.



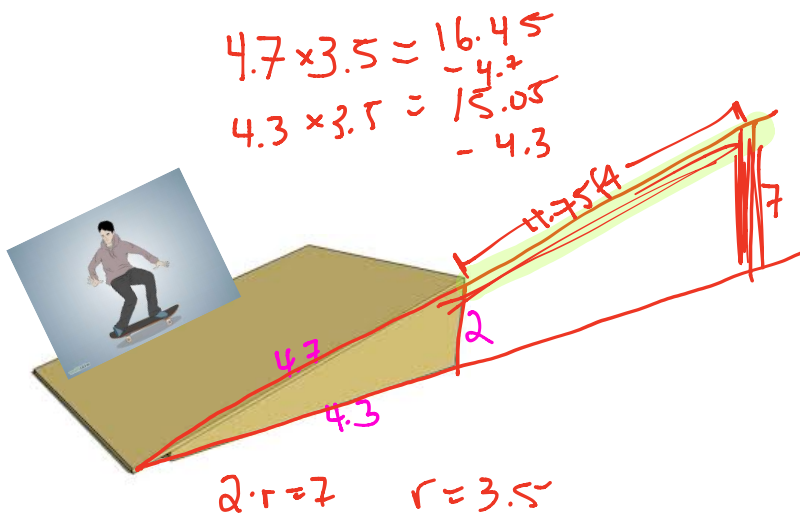
A tree is planted in the backyard. How tall does the tree need to be before it will provide shade to the house?

house is 14ft.
AA Similarity



$$\frac{45}{20} = 2\frac{1}{4} \times 14 = 31.5\text{ft}$$

A skateboard ramp makes a 25° angle with the ground. A 2 foot tall ramp requires about 4.3 feet of wood along the base and 4.7 feet of wood to make the ramp. How much additional wood is required to make a ramp that would be 7 feet tall?



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INDEPENDENT PRACTICE:

ACTIVATING PRIOR KNOWLEDGE:

CLOSURE:

Make up your own problem like this...

TEACHER NOTES:

Visual patterns #27-first quadratic...