

NAME: _____

Math _____, Period _____

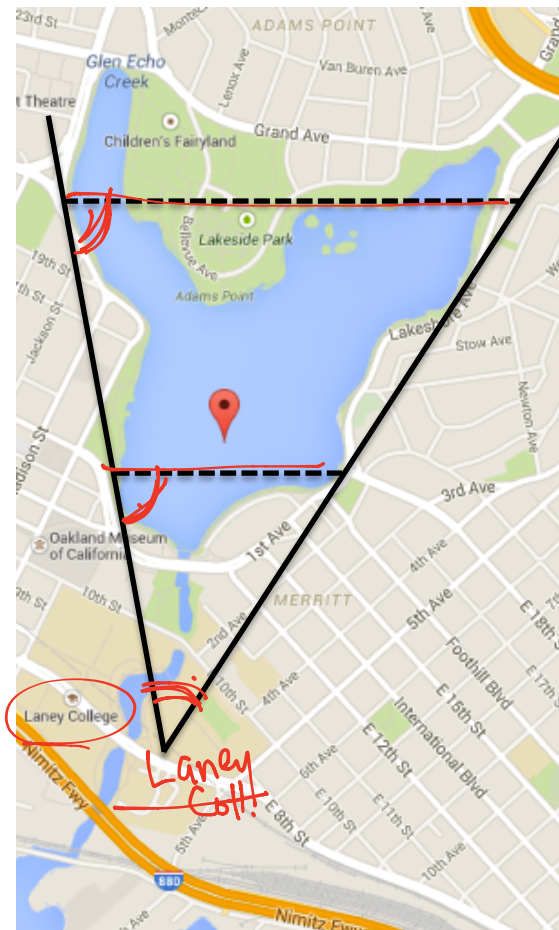
Mr. Rogove

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 shorter dashed line
- ② Distance from Laney to both dashed lines
- ③ Dashed lines parallel.

Similar Δ
SAS similarity
AA similarity

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.

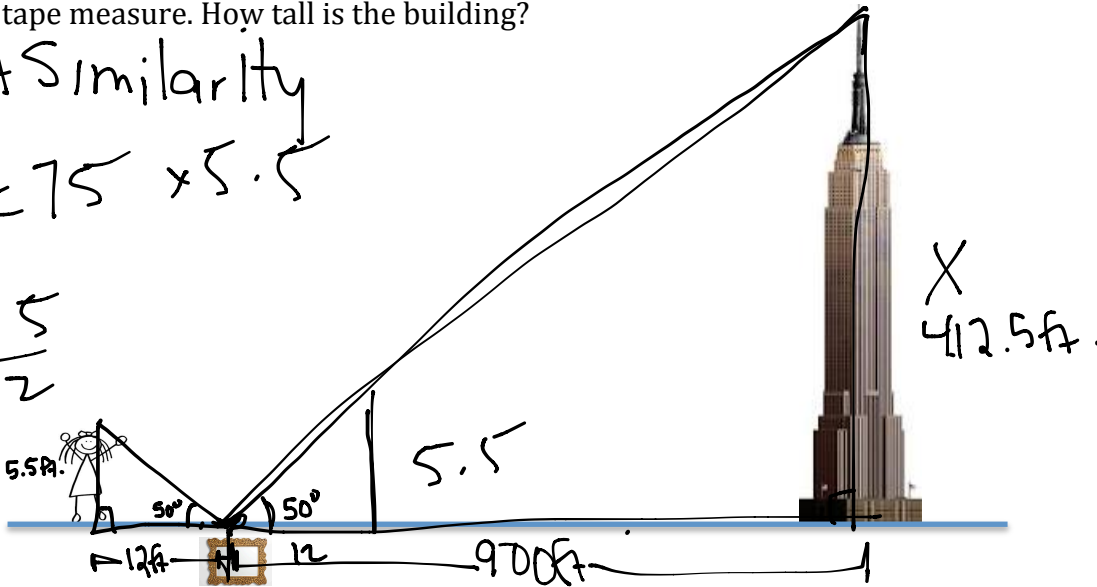
You want to determine the height of a building, and all you have is a mirror and a long tape measure. How tall is the building?

AA Similarity

$$r = 75 \times 5.5$$

$$\frac{x}{900} = \frac{5.5}{12}$$

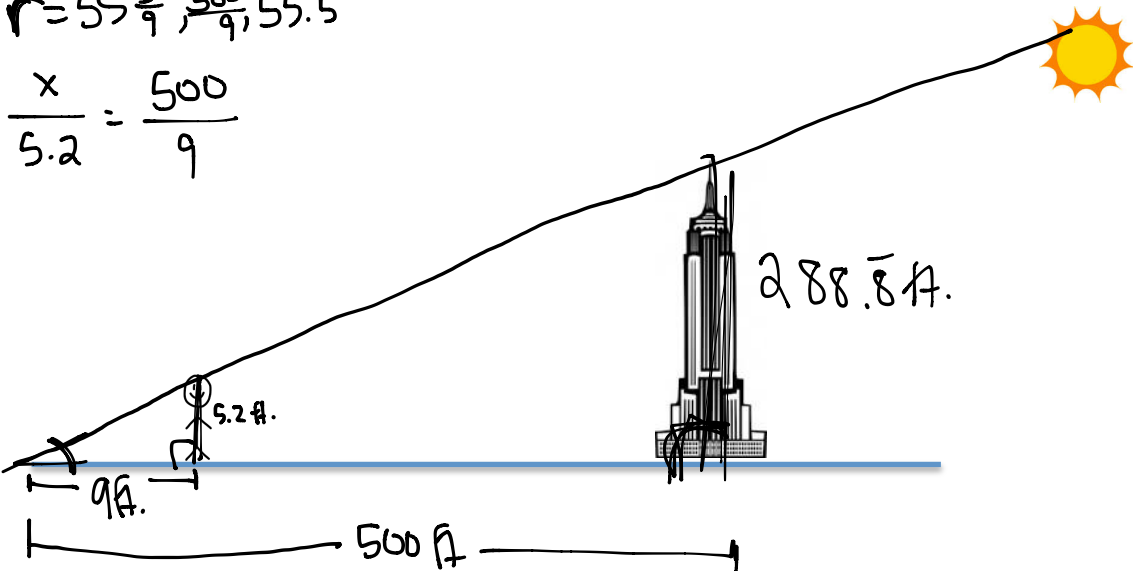
$$\frac{x}{5.5} = \frac{900}{12}$$



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

$$r = 55 \frac{5}{9}, 500, 55.5$$

$$\frac{x}{5.2} = \frac{500}{9}$$



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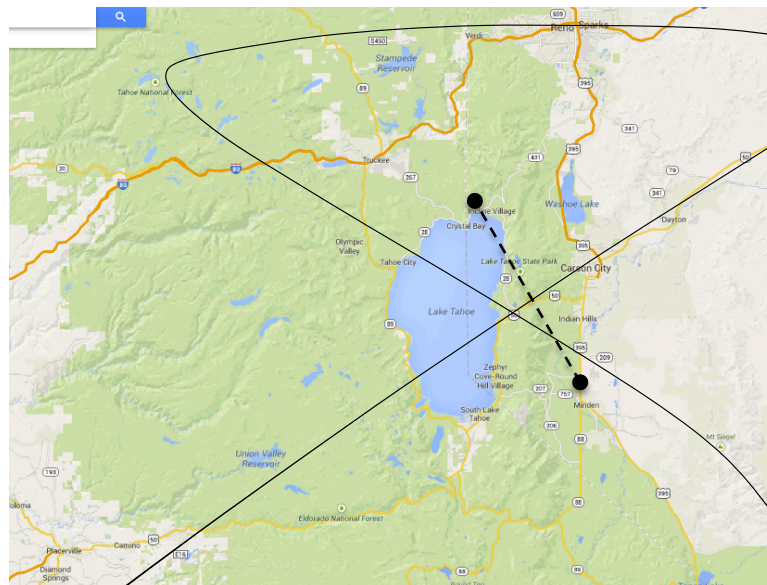
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How far is it from Oakland International Airport to San Francisco International Airport?



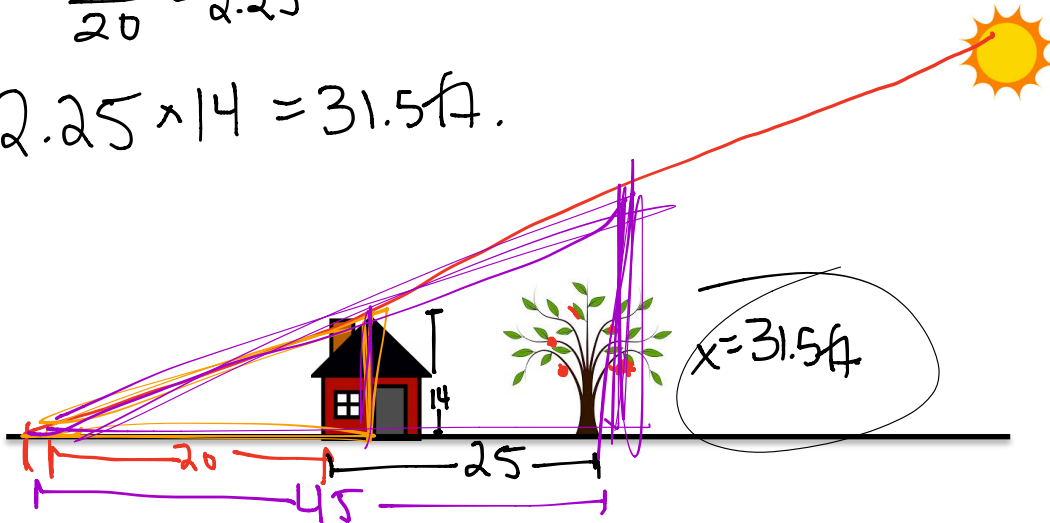
How far is it from South Lake Tahoe to Tahoe City? From Incline Village to Rte 395 just north of Minden it is 60 miles.



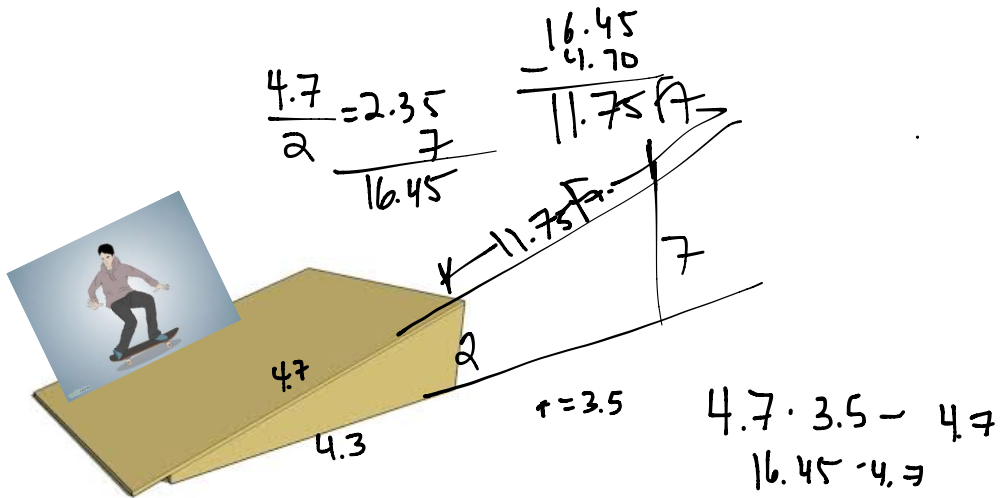
A tree is planted in the backyard. How tall does the tree need to be before it will provide shade to the house?

$$r = \frac{45}{20} = 2.25$$

$$2.25 \times 14 = 31.5 \text{ ft.}$$



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...