

Good morning and welcome back! Happy New Year :)

No warm up, we'll randomize and dive into Q3

**Announcement:**

Did you enjoy making stuff in the eLab? Come to the Tech Club on Thursdays 4-530p to learn more and make cool stuff!

## Visibly Random Grouping

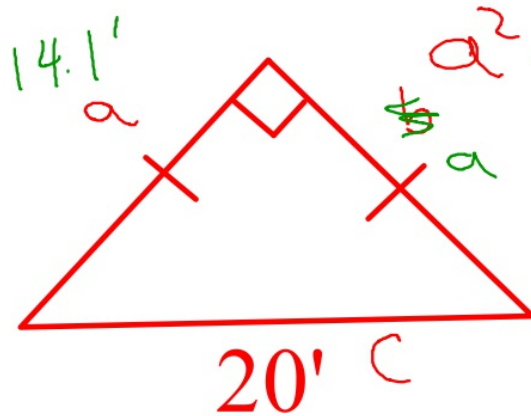
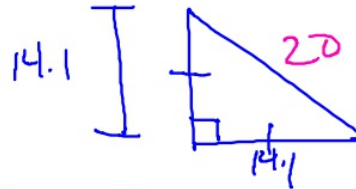
What do we learn this quarter?

- Finishing similarity
- Trigonometry
- Area, Volume and Modeling with Geometry
- Starting circles unit



Shown here is a gabled roof. The garage width spans 20 feet. Find the perimeter and area of the triangular gable (include units).

Area of a triangle formula:  $A = \frac{1}{2} \cdot b \cdot h$



$$a^2 + b^2 = c^2$$

$$a^2 + a^2 = 20^2$$

$$2a^2 = 400$$

$$a^2 = 200$$

$$a = \sqrt{200}$$

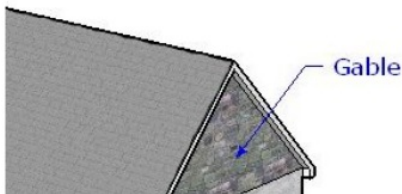
$$\approx 14.1$$

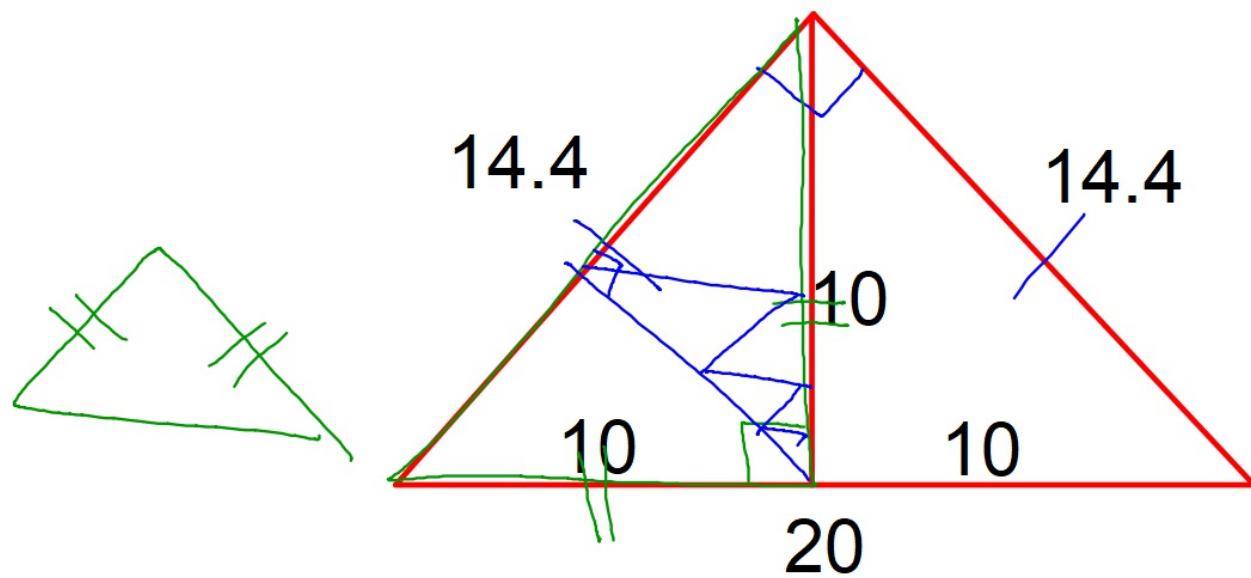


$$P = 14.1 + 14.1 + 20$$

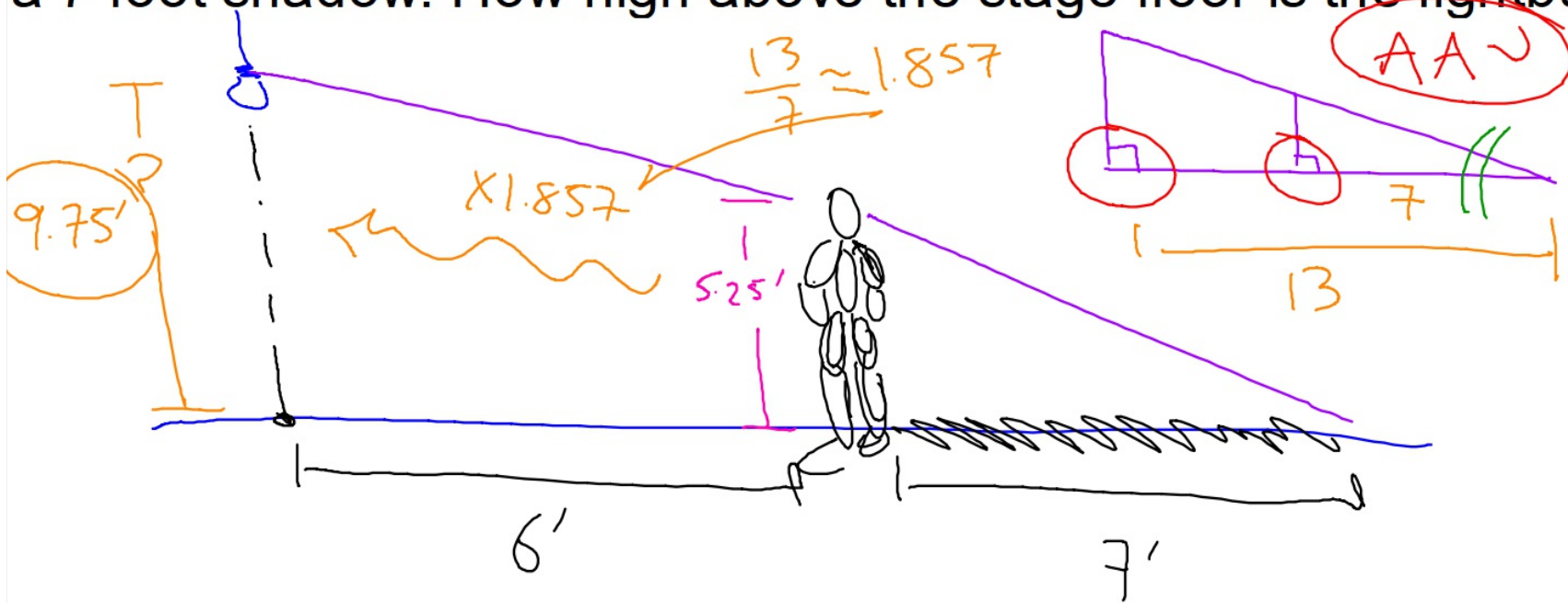
$$48.2'$$

$$A = \frac{1}{2} (\sqrt{200}) (\sqrt{200}) = 100 \text{ ft}^2$$





A dangling lightbulb hangs above a stage. A ~~5'3"~~ actor stands 6 feet from the spot on the floor directly below the bulb where she casts a 7 foot shadow. How high above the stage floor is the lightbulb?



HW:

watch and take notes on the very important video  
posted at [mgeo.weebly.com](http://mgeo.weebly.com)

