

Good morning: no warm up, we'll randomize then get assessments back and learn about similarity and dilations

reminders:

retakes in DS

benchmark: next Thursday

Q2 ends in 2 weeks

visibly random grouping

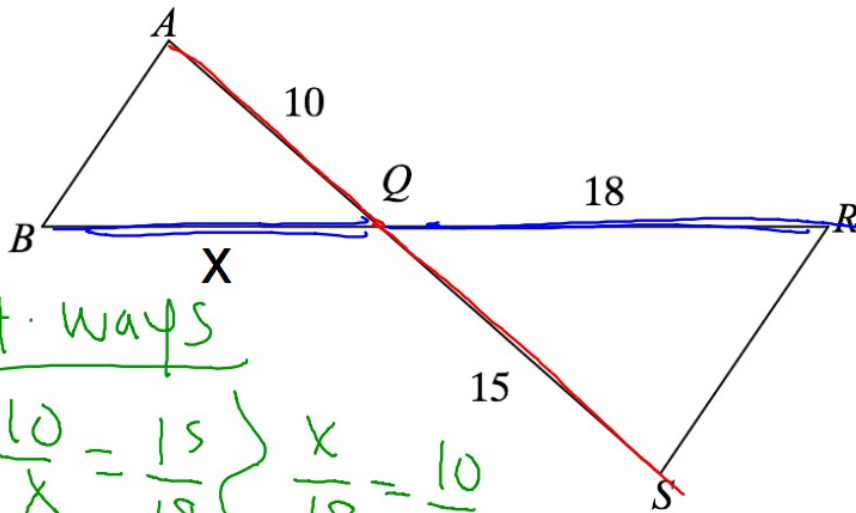
Similar Figures

$\triangle QRS \sim \triangle QBA$ "similar"

$$\frac{QR}{QB} = \frac{QS}{QA}$$

Proportions

- like an analogy
- consistency matters!



Alt. ways

$$\frac{10}{x} = \frac{15}{18}$$

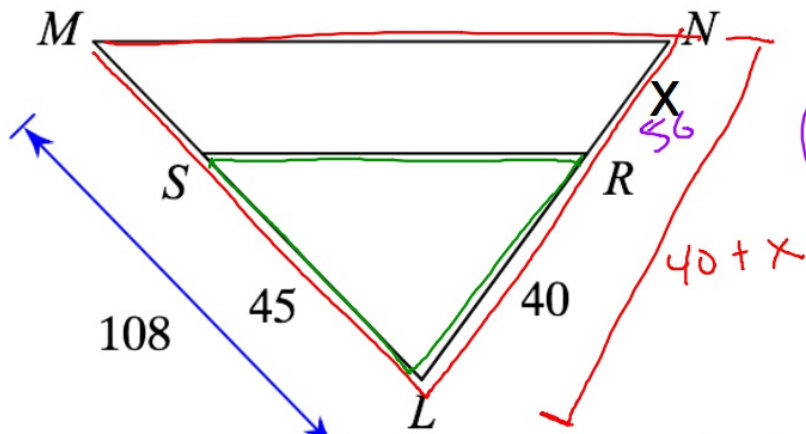
$$\frac{x}{18} = \frac{10}{15}$$

Be consistent!

$\frac{18}{x} \times \frac{15}{10}$ cross multiply

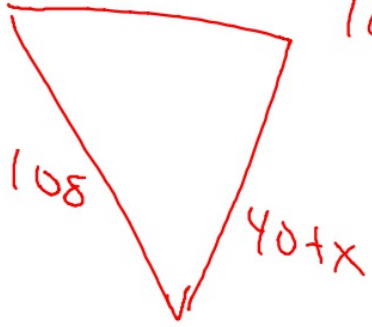
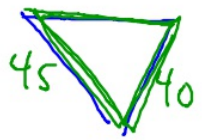
$$180 = 15x$$

$$12 = x$$



Not to scale!

Draw separately



Small Δ
Big Δ

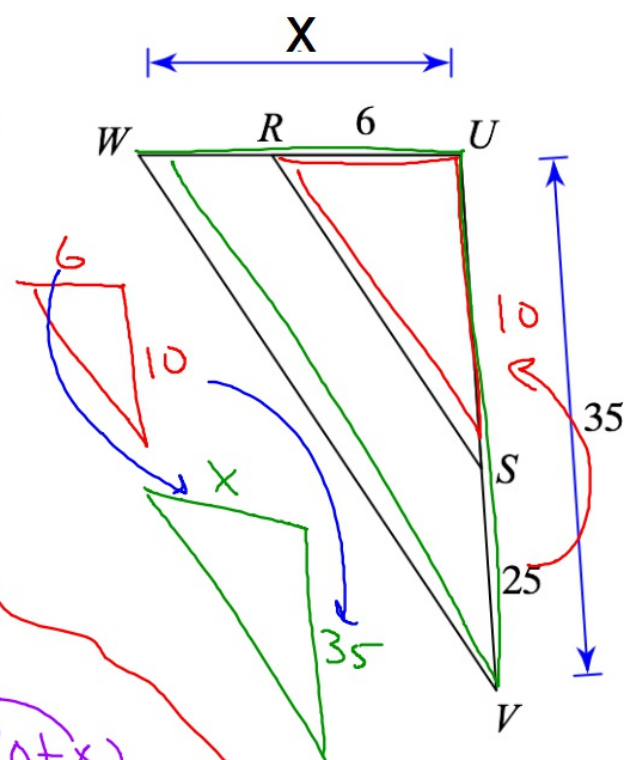
$$\frac{45}{108} = \frac{40}{40+X}$$

$$4320 = 45(40+X)$$

$$4320 = 1800 + 45X$$

$$2520 = 45X$$

$$(56 = X)$$

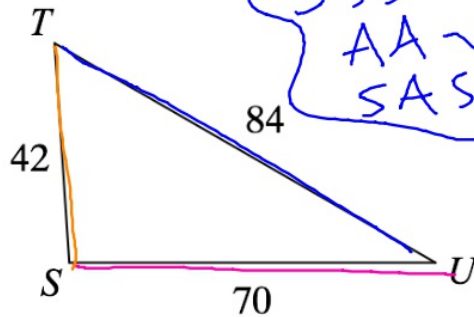


$$\frac{35}{10} = 3.5$$

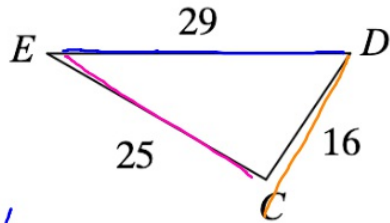
scale factor

$$6 \times 3.5 = 21$$

Are they similar?



SSS~
AA~
SAS~



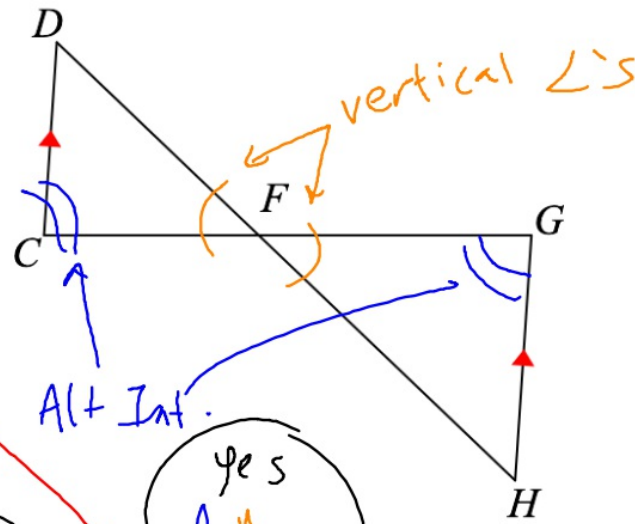
Not Similar

$$\frac{84}{29} = 2.897..$$

$$\frac{70}{25} = 2.8$$

$$\frac{42}{16} = 2.625$$

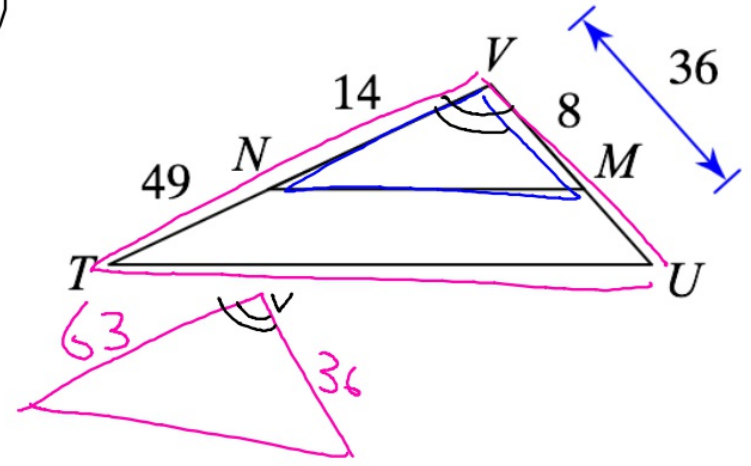
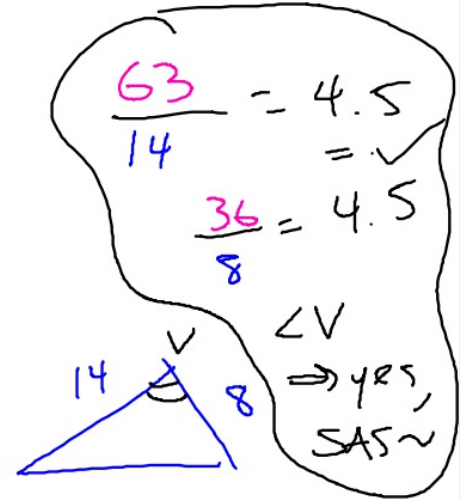
not equal proportions



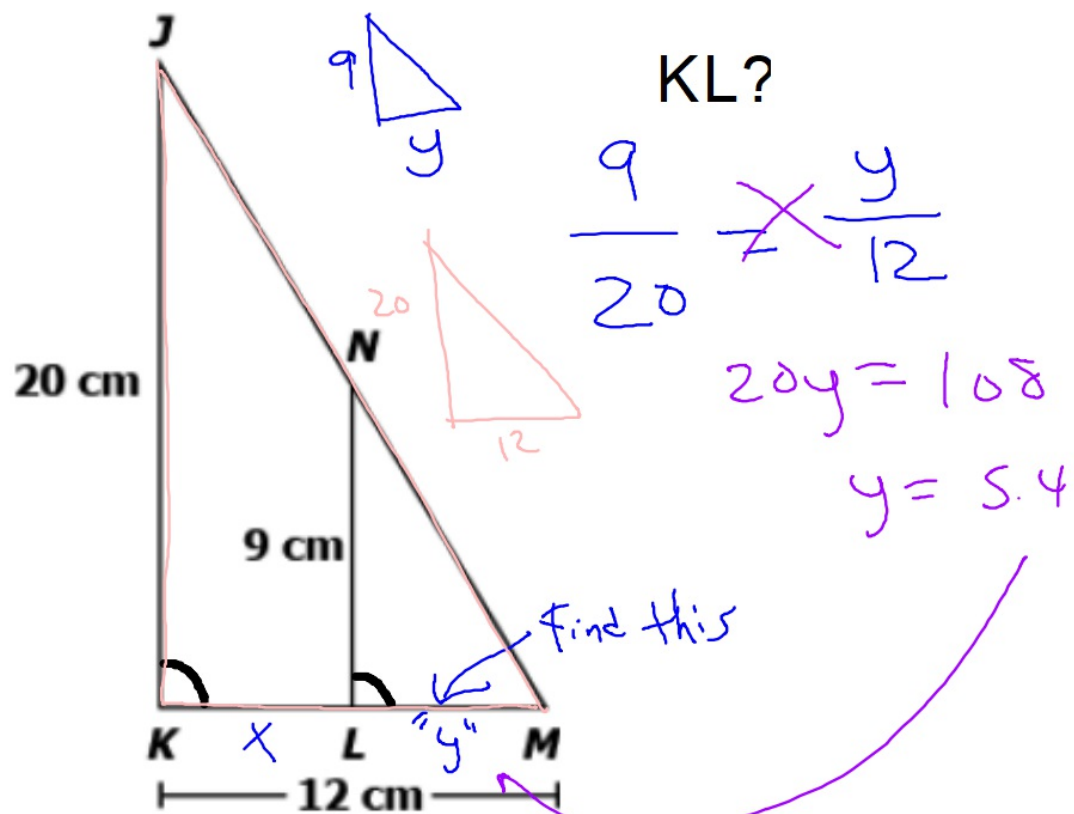
vertical \angle 's

Alt Int.

yes AA~



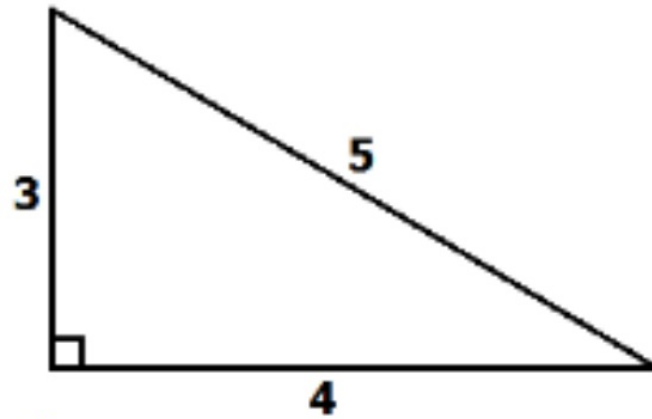
Benchmark/EOC Prep



$$KL = 12 - 5.4 = 6.6 \text{ cm}$$

Which are the side lengths of a triangle that is similar to the right triangle shown?

- A 4, 5, and 6
- B 5, 12, and 13
- C 6, 8, and 9
- D 9, 12, and 15



$$\frac{3}{9} = \frac{1}{3}$$
$$\frac{4}{12} = \frac{1}{3}$$

$$\frac{5}{15} = \frac{1}{3}$$

Work on your eLab projects

- confer with partners on ideas/progress
- start iterating
- research how to make it, find any existing solutions
- digitally fabricate!

HW: p 253-4: #4-8 p 264 #4-5