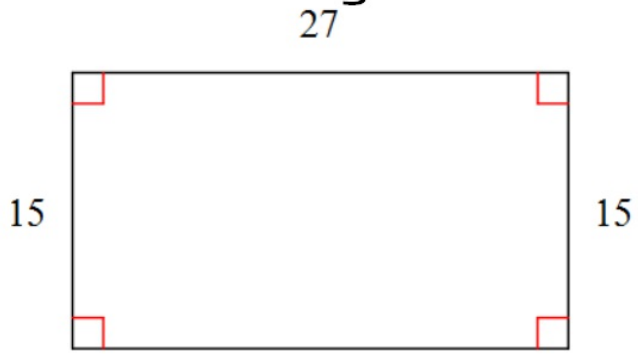
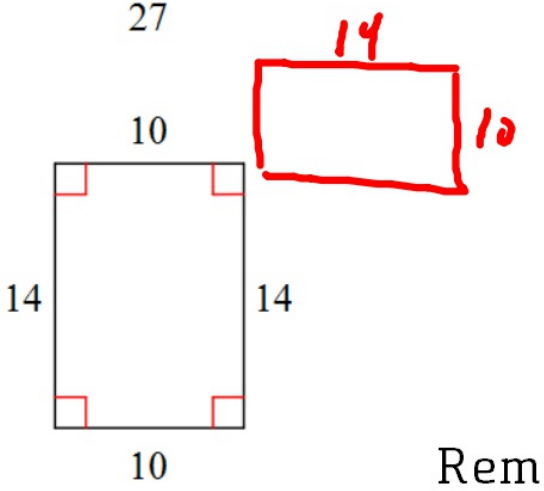
Good morning: please do warm up in notes

1) Are these figures similar? Explain.

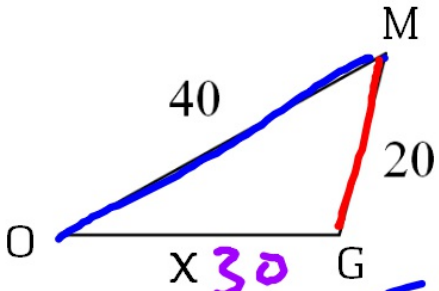


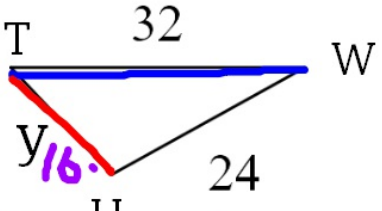


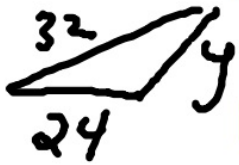
$\frac{27}{14} \neq \frac{15}{10} = \frac{3}{2}$

similar

2. Δ OMG ~ ΔWTH. Find the value of x and y







$\frac{40}{32} = \frac{x}{24} = \frac{20}{y}$

Reminders:
- reassess in DS today/tmrw q2 ends in a week

At sunset, a tall tree casts a shadow that measures 22 feet long.
At the same time, a 5'6" person casts a 10 foot shadow.
How tall is the tree?

Your draft for a mural is a rectangle that measures 12" by 8". $= 96\ in^2$
The wall on which you will paint the real mural measures 120" by 80"
$9600\ in^2$

If the draft required 2 tubes of paint, how many tubes of paint will the real mural require?

If linear scale is n, then area scale is n^2

Linear Scale:

$\frac{120}{12} = 10 \leftarrow n$

$\frac{80}{8} = 10 \leftarrow$

$\frac{9600}{96} = 100$

If a wallet size photo measures 2" x 2.5", and it takes 16 wallet photos to cover the original portrait, what are the dimensions of the original portrait?

2"

2.5"

Linear → Area

$n \rightarrow n^2$

$\sqrt{}$

10

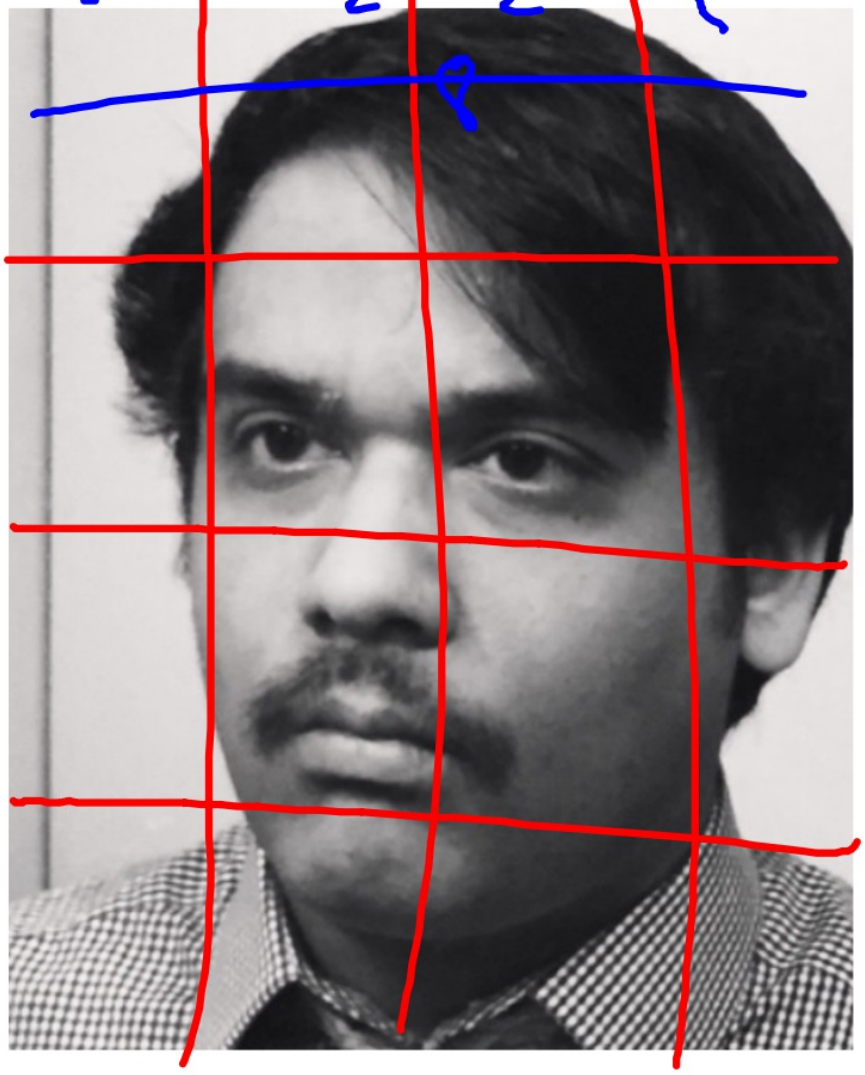
2.5

2.5

2.5

$\sqrt{16} = 4$

2 2 2



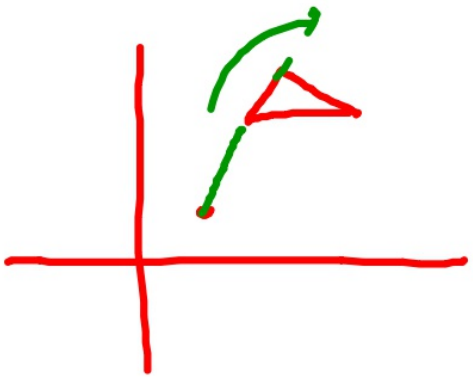
Euclidean Dilation

Tools: compass, straight edge

Cartesian Dilations

Centered at the origin: $(x,y) \rightarrow (kx, ky)$

What if these
were different numbers?

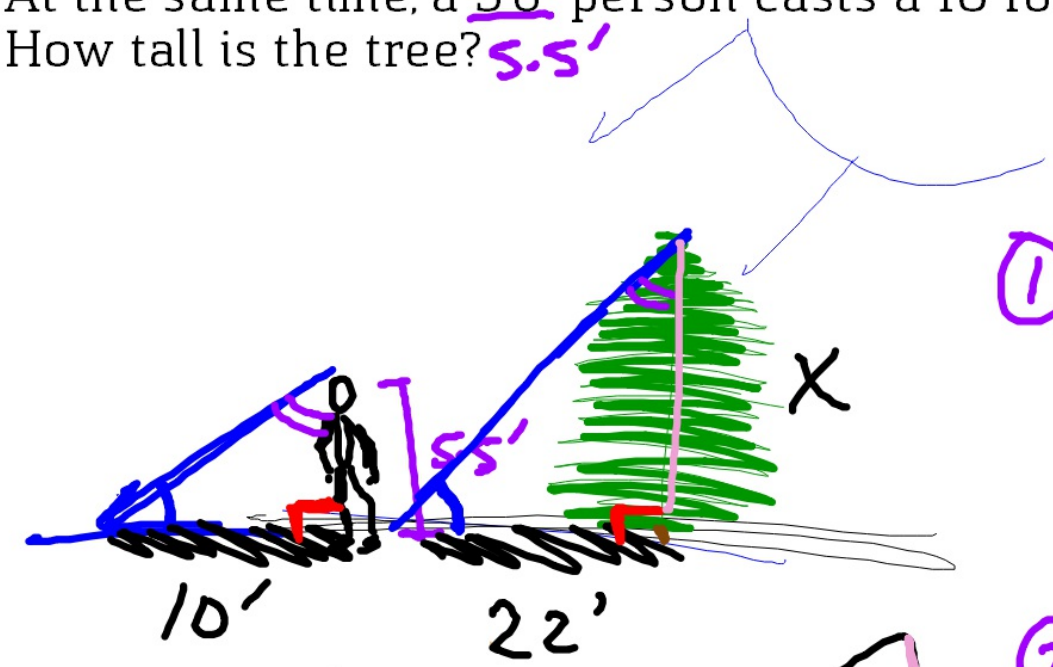


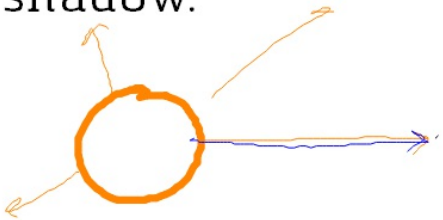
When not centered at the origin, things are not so easy!
See video assigned last Monday for more details

Share with your elbow partner
something you have learned so far today

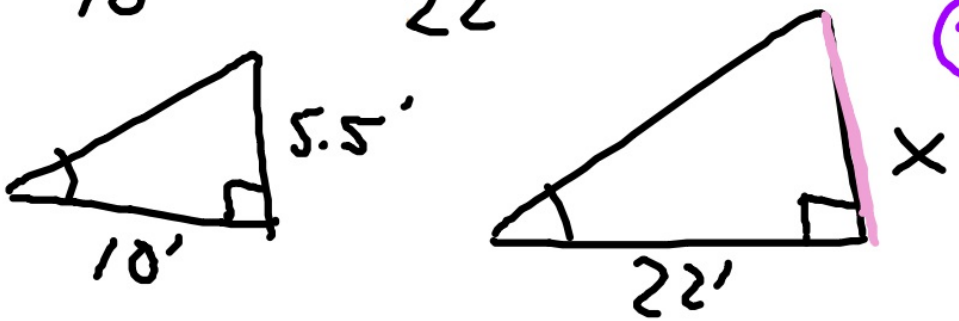
Similar Triangles

At sunset, a tall tree casts a shadow that measures 22 feet long.
At the same time, a 5'6" person casts a 10 foot shadow.
How tall is the tree? 5.5'





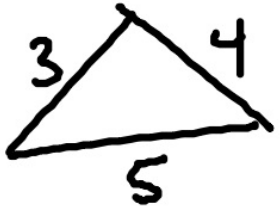
① $\frac{5.5}{x} = \frac{10}{22}$

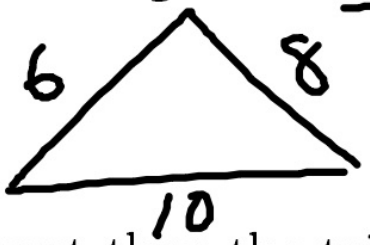


② $\frac{5.5}{10} = \frac{x}{22}$

What is needed for similar triangles? (Similarity Criteria)

If all 3 side pairs are in proportion to corresponding sides in the other, then the two triangles are congruent . (SSS~)

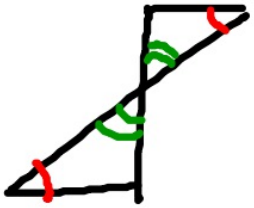




$\frac{6}{3} = 2$ $\frac{8}{4} = 2$ $\frac{10}{5} = 2$

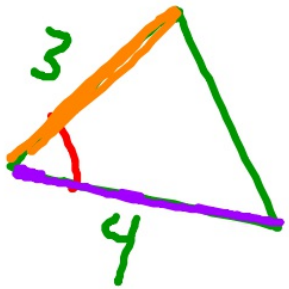
SSS~

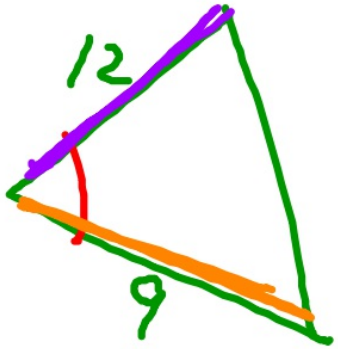
If two angles are congruent, then the triangles are similar (AA~)



AA~

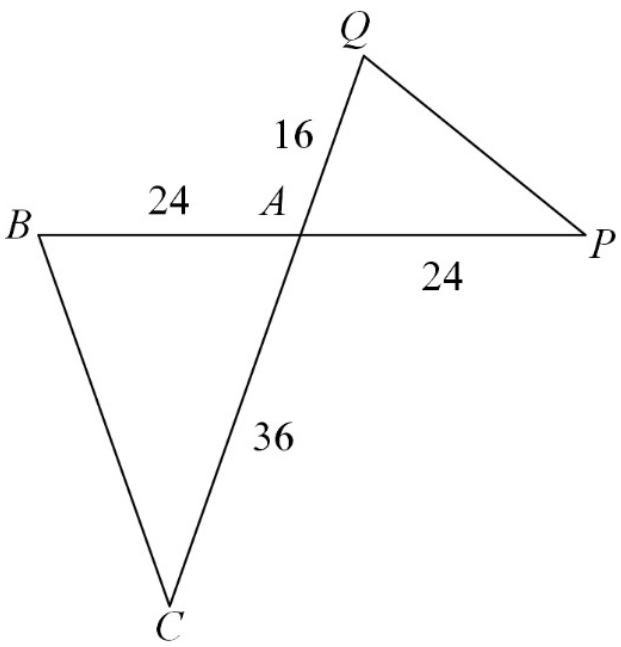
If two side pairs are in proportion and their included angle is congruent, then the triangles are similar (SAS~)



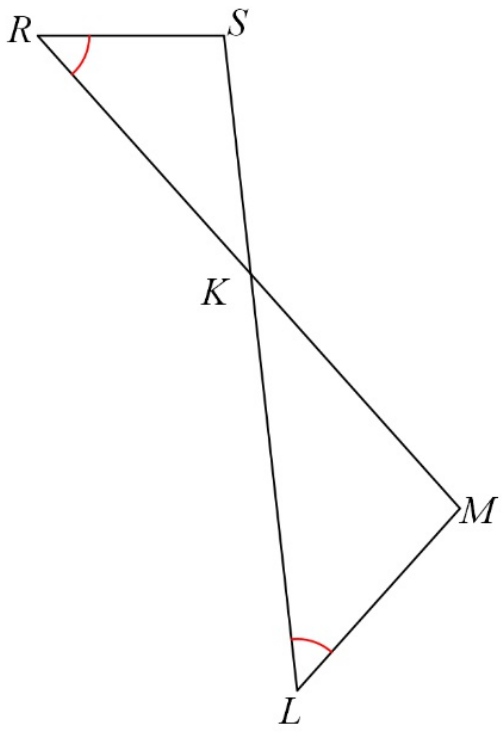


$\frac{12}{4} = 3$ $\frac{9}{3} = 3$ → SAS~

Are they similar? Give your reasoning and complete the similarity statement.

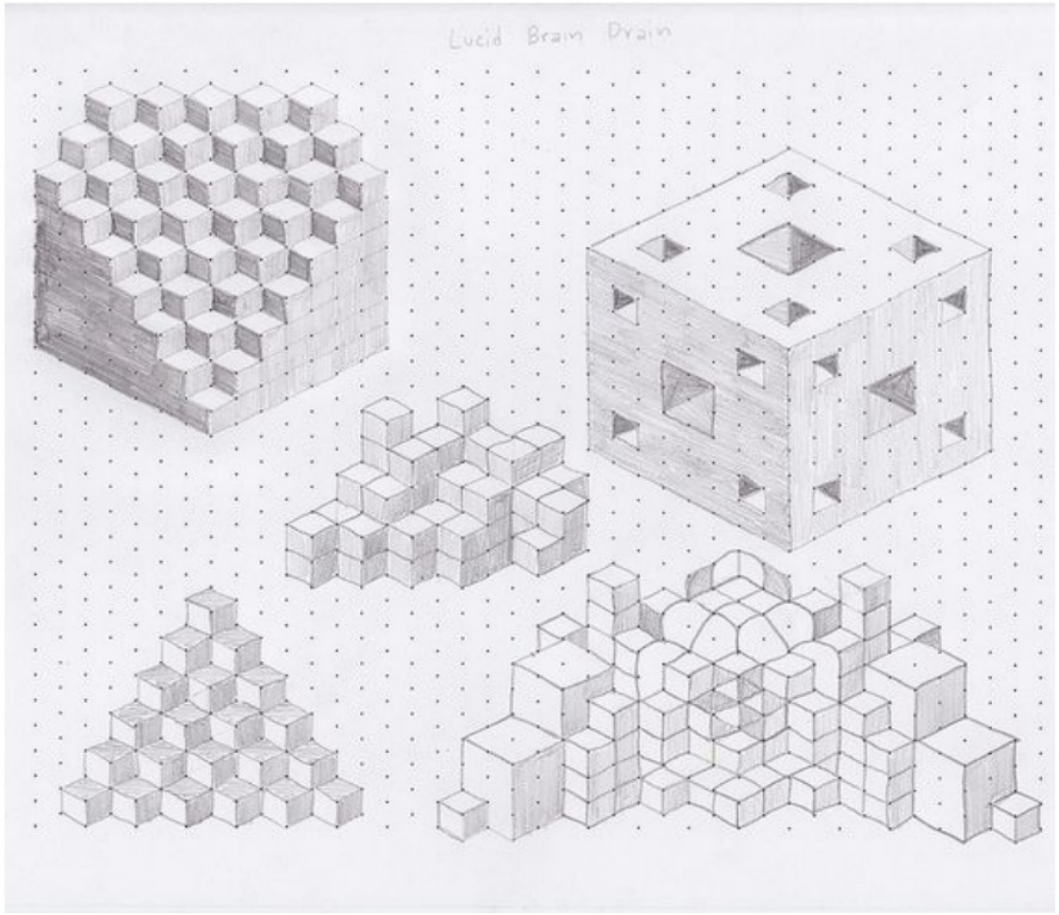


$\triangle ABC \sim$ _____



$\triangle KLM \sim$ _____

Fun! Isometric Dot Paper



Homework

p. 255 #1, 4, 10
p. 260 #7-13