

Geometry B Live Lesson Class

U2L2 – Similar Polygons
(Chapter 7-2 in textbook)



Agenda



1. Review topics from Unit 2, Lessons 2.

2. Use the 2-column note system to take better notes in math class. Bring your math notebook and pen or pencil to each math LiveLesson class.

2-Column Notes Template



1. Announcements/To Do's
2. School-Wide Learner Outcomes
3. LL Objectives
4. Vocabulary words
5. Problems
6. Summary (End of class)

1. Write down important details.
2. What are you going to work on this week?
- 3.
4. Definitions (fill in as we go)
5. Steps to solving problems
6. 1 or 2 sentences about the LL class.

Reminders and To – Do's



Information

1. Complete 1 math lesson per day.
2. Check your WebMail every day
3. Be prepared to spend 4 - 6 hours per day on schoolwork.
4. Remind your Learning Coach to take daily attendance

What to do

1. Go to your Planner in Connexus to find the math lesson for the day
2. Go to Connexus to find WebMail
3. Complete lessons for the day from your Planner. Do not get behind on lessons.
4. Have your Learning Coach log into Connexus daily.

Reminders and To – Do's



Information

5. Go to the Message Board first for information about our math class.

6. Contact Mr. Elizondo for math questions.

Remember: You need at least 2 phone calls with Mr. Elizondo per semester.

What to do

6. Call (559) 549 - 3244 and leave a voicemail if call is not answered.

Make an appointment at:
<https://elizondo.youcanbook.me>

Send a WebMail

U2L2 - California Common Core State Standards



- HSG-SRT.A.2: Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
- HSG-SRT.B.5: Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
- HSG-SRT.A.3: Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.

U2L2 – Objectives



- Identify and apply similar polygons
- Identify similarity transformations and verify properties of similarity

U2L2 – Key Words



- extended proportion
- scale
- scale drawing
- scale factor
- similar figure
- similar polygons
- similarity transformation

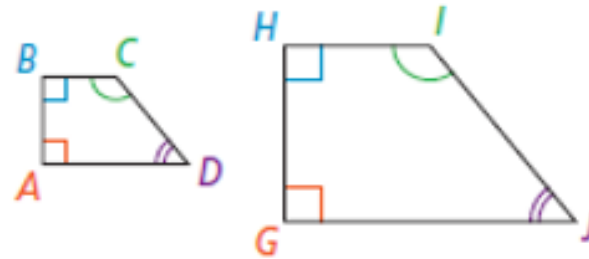
U2L2 – Similar Figures



Similar figures: figures that have the same shape but not necessarily the same size (\sim)

“Corresponding” parts... again!

- Corresponding angles of similar polygons are congruent
- Corresponding sides of similar polygons are **proportional**



Name the corresponding angles.

$$\angle A \cong \angle G \quad \angle C \cong \angle I$$

$$\angle B \cong \angle H \quad \angle D \cong \angle J$$

Complete the extended proportion.

$$\frac{AB}{GH} = \frac{BC}{HI} = \frac{CD}{IJ} = \frac{AD}{GJ}$$

U2L2 – Similar Figures

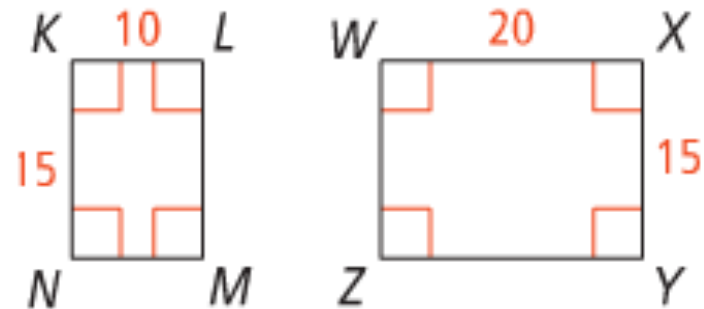


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“Corresponding” parts... again!

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Are the polygons similar? If they are, write a similarity statement and give the scale factor.



$$\frac{KL}{XY} = \frac{10}{15} = \frac{2}{3}$$

$$\frac{NK}{WX} = \frac{15}{20} = \frac{3}{4}$$

U2L2 – Similar Figures

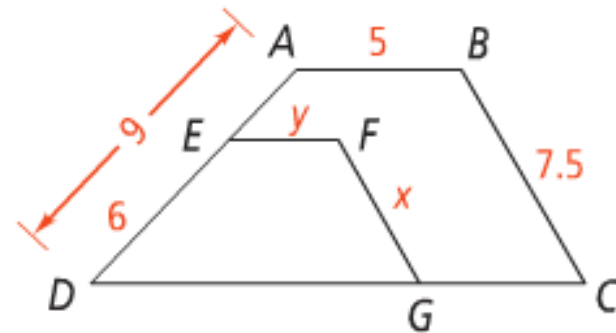


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$ABCD \sim EFGD$. What is the value of y ?



$$\frac{AD}{ED} = \frac{AB}{EF} \quad \frac{9}{6} = \frac{5}{y}$$

$$9y = 30$$

$$y = 3.33$$

U2L2 – Scale Drawings



- In a scale drawing, all lengths are proportional to their corresponding actual lengths.
- The scale is the ratio that compares each length in the scale drawing to the actual length.
- Where might we see scales or scale drawings in “real life”?

The floor plan of a room on a blueprint has a scale of $\frac{1}{4}$ in. = 1 ft. The master bedroom measures 3 in. by $3\frac{3}{4}$ in. on the blueprint. What is the actual size of the room?

$$\frac{1}{4} \text{ in.} = 1 \text{ foot} \quad 1 \text{ in.} = 4 \text{ feet}$$

$$3 \text{ in.} = 12 \text{ feet}$$

$$3\frac{3}{4} \text{ in.} = 15 \text{ feet}$$

The master bedroom is 12 feet by 15 feet.

U2L2 – Scale Drawings



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The space allowed for the mascot on a school's web page is 120 pixels wide by 90 pixels high. The digital image for the mascot is 500 pixels wide by 375 pixels high. Will the entire image fit into the space allotted?

$$\frac{120}{90} = \frac{12}{9} = \frac{4}{3} \quad \frac{500}{375} = \frac{20}{15} = \frac{4}{3}$$

Questions?



- Check the Message Board first
- Send a WebMail
- You can also make an appointment at <https://elizondo.youcanbook.me>
- You can also call me at (559) 549-3244. If I'm not available to answer your call, please leave a voicemail with your full name and phone number.