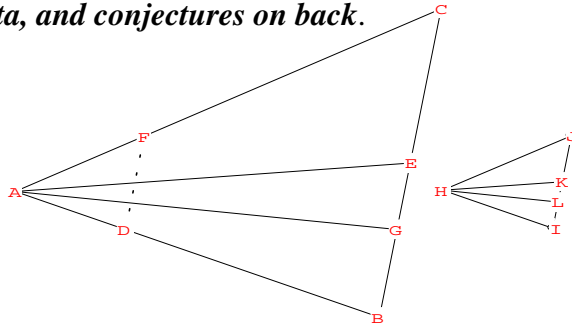


WINGEOM SIMIARITY LAB

Name _____

Place drawings, data, and conjectures on back.



1. Use **Shape/Random/Triangle** to create an acute triangle. **Btns/seg**. Right click on AB to place D on AB. **Line/parallels** to create a parallel to BC through pt D. Right click to create F, the intersection of DE and AC. Use **Edit/Segment delete** to delete segment EF. Use **Edit/Point delete** to delete E.
2. Use **View/Highlights/Color line/circle** to change the color of DF. **Measure** the 3 sides, 3 angles, area (ABC), and perimeter (F6 (ABC)) of triangle ABC.
3. **Point/Midpoints** to create E the midpoint of BC. Click and drag to create median AE. **Lines/Perpendiculars/Altitudes** to create Altitude AF perp to BC from point A. Measure the lengths of median AE and Altitude AG. Draw your diagram and record all measures.
4. Use **Shape/Duplicate** to make a copy of triangle ADF (HIJ). **Btns/Drag** triangle HIJ to a convenient position on the screen. **Triangle HIJ is similar (same shape) as Triangle ABC.**
5. **Measure** the 3 sides, 3 angles, area (HIJ), and perimeter (F6(HIJ)).
6. **Point/Midpoints** to create K, the midpoint of IJ. **Btns/seg** click and drag to create median HK. Use **Lines/Perpendiculars/Altitudes** to create altitude HL perpendicular to IJ from point H. **Measure** HK and HL. Draw your diagram and record all measures.
7. Evaluate your data. **Measure** the following to assist in making your conjectures: AB/HI, AC/HJ, BC/IJ, AE/HK, AG/HL, Area: ABC/HIJ, Perimeter: ABC/HIJ.
8. DF was created parallel to BC. **Measure**: AD/AB, AF/AC, & DF/BC. Make a conjecture as to the relationship of triangle ABC and triangle ADF.
9. **Measure** AD/DB and AF/FC. What does the parallel segment DF do to the sides of triangle ABC? **Measure** DB/AB and FC/AC. Make conjectures about these relationships.
10. Test your conjectures. Make another drawing with measurements. A) Use **Btns/drag** to drag point D. B) Use **Edit/Randomize** to create other types of triangles. (The computer will re-measure each random triangle.

DRAWINGS AND DATA

$AB/HI =$

$AC/HJ =$

$BC/IJ =$

$AE/HK =$

$AG/HI =$

Area: $ABC/HIJ =$

Perimeter: $ABC/HIJ =$

$AD/AB =$

$AF/AC =$

$DF/BC =$

$AD/DB =$

$AF/FC =$

$DB/AB =$

$FC/AC =$

CONJECTURES

- Corresponding angles of similar triangles are _____.
- Corresponding sides _____.
- Corresponding medians _____.
- Corresponding altitudes _____.
- Corresponding areas _____.
- Corresponding perimeters _____.
- A segment drawn parallel to a side of a triangle _____
_____.