

Lesson 5-2: Exploring Similar Polygons

Hands-On Activity: *Ad Infinitum*



Objective:

Using a ruler and compass or t-bar, draw similar rectangles.

Materials:

- unlined paper
- Ruler
- Compass or t-bar

Procedure:

1. On a clean sheet of unlined paper, draw a rectangle $ABCD$ with length 10 inches and width 8 inches. Label the vertices and side lengths.
2. Find the midpoint of each side of rectangle $ABCD$ and mark those points as E , F , G , and H . Connect the midpoints to form the quadrilateral $EFGH$.
3. Now find the midpoint of each side of $EFGH$ and connect those points to form quadrilateral $JKLM$.
4. Measure the side lengths of $JKLM$. How do they compare to the original rectangle? Are the figures similar? Why or why not?
5. Find the midpoints of the sides of $JKLM$ and connect the points to form another quadrilateral.
6. Find the midpoints of the new quadrilateral and connect them. Measure the side lengths of this figure. How does it compare to the original and the second rectangle? Is it similar to them?
7. Set up a chart to show the lengths and widths of five rectangles formed by the described divisions. How can you prove that the rectangles are all similar?