

Angles in a Polygon

Time Estimate: 30 minutes to finish triangle page; additional 10-15 minutes per page

Draw a triangle using the ray tool, and connect the sides (so that it does not fall apart when a vertex is dragged).

Measure the interior angles and exterior angles. Calculate the sums of the interior and exterior angles.

Add a new page to the document and draw a convex quadrilateral using the ray tool, connecting the sides. Measure interior and exterior angles.

Calculate the sums of interior and exterior angles.

Add new pages to repeat exercise for a convex pentagon, hexagon, and septagon.

Derive formulas for the sum of interior angles and exterior angles as functions of the number of sides of the polygon.