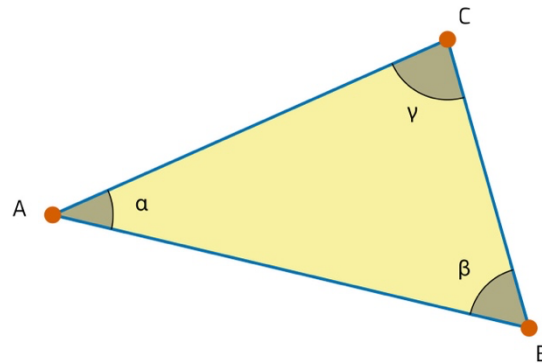


Triangle Sum Theorem

Construction

- ▶ Draw a triangle ABC and label the angles at the three vertices.



- ▶ Measure the angles and the sum of the angles. Place the measures to the right of the triangle on the board.

Exploration

- ▶ Drag any of the vertices A, B, C of the triangle. Observe the measures of the three angles and the sum of the measures.
- ▶ Formulate your finding as a conjecture.
- ▶ Developing a proof: Choose the strategy of adding an auxiliary line. Draw a line through C parallel to side \overline{AB} and label the alternative interior angles. What is the relationship among the angles $\varepsilon, \gamma, \delta$? Try to write a proof.

