

POLYGON PATTERNS

Go to [geogebra.org/m/we6ww7cz](https://www.geogebra.org/m/we6ww7cz) and follow the provided directions. In the tables below, collect data about different polygons and their exterior angles by answering the corresponding questions.

Math Data

Polygon Type: Triangle		
How many exterior angles are there?	What shape do all the exterior angles combine to make?	What is the angle measure of that shape?

Polygon Type: Quadrilateral		
How many exterior angles are there?	What shape do all the exterior angles combine to make?	What is the angle measure of that shape?

Polygon Type: Pentagon		
How many exterior angles are there?	What shape do all the exterior angles combine to make?	What is the angle measure of that shape?

Polygon Type: Hexagon		
How many exterior angles are there?	What shape do all the exterior angles combine to make?	What is the angle measure of that shape?

Reflection and Conclusions

- 1) Based on what you saw in the GeoGebra activity, what do you think the definition of an *exterior angle* is?
- 2) How are exterior angles constructed?
- 3) For any polygon, what is the connection between the number of sides it has and the number of exterior angles it has?
- 4) What is the relationship between corresponding interior and exterior angles?
- 5) What is the relationship between the number of sides a polygon has and the sum of its exterior angles? How does this differ from the sum of the interior angles of a polygon?