Vocabulary: Polygon Angle Sum



**Vocabulary**

* Diagonal – a line segment joining two vertices of a polygon not on the same side.
* For example,  is a diagonal of polygon *ABCD*, shown to the right.

exterior angle

diagonal

interior angle

*A*

*B*

*C*

*D*

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* Exterior angle – an angle formed by one side of a polygon and the extension of an adjacent side.
* For example, ∠1 is an exterior angle of *ABCD*.
* Interior angle – an angle formed by two sides of a polygon that share an endpoint.
* For example, the interior angles of *ABCD* above are ∠*DAB*, ∠*ABC*, ∠*BCD*, and ∠*CDA*.
* Polygon – a closed plane figure formed by three or more line segments.
* Line segments that make up a polygon are called *sides*. The adjacent sides of a polygon meet to form *angles*.
	+ - For example, the sides of Δ*XYZ* below are , , and .

|  |  |
| --- | --- |
| **Number of sides** | **Name of polygon** |
| 3 | triangle |
| 4 | quadrilateral |
| 5 | pentagon |
| 6 | hexagon |
| 7 | heptagon |
| 8 | octagon |
| *n* | *n*-gon |

*Y*

*X*

*Z*

side

vertex

* The point at which two sides intersect is called a *vertex* of a polygon.
	+ - For example, the vertices of Δ*XYZ* are *X*, *Y*, and *Z*.
* Polygons are named by the number of sides, as shown in the table at the right.
* Regular polygon – a polygon with all sides congruent and all angles congruent.
	+ Some examples of regular polygons are shown at the right.
* Polygons that are not regular are *irregular*. Some examples are shown at the right.