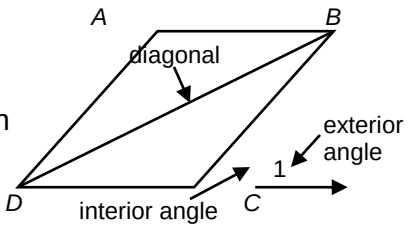
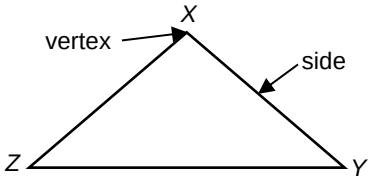
Vocabulary: Polygon Angle Sum

Vocabulary

- Diagonal – a line segment joining two vertices of a polygon not on the same side.
  - For example, $\overline{BD}$ is a diagonal of polygon *ABCD*, shown to the right.



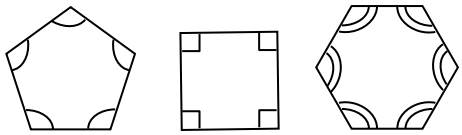
- Exterior angle – an angle formed by one side of a polygon and the extension of an adjacent side.
  - For example, ∠1 is an exterior angle of *ABCD*.
- Interior angle – an angle formed by two sides of a polygon that share an endpoint.
  - For example, the interior angles of *ABCD* above are ∠*DAB*, ∠*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 $\overline{XY}$, $\overline{YZ}$, and $\overline{ZX}$.



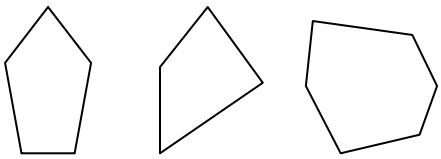
  - The point at which two sides intersect is called a *vertex* of a polygon.
    - For example, the vertices of Δ*XYZ* are *X*, *Y*, and *Z*.
  - Polygons are named by the number of sides, as shown in the table at the right.

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

- 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.



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