



CLASSIFYING POLYGONS

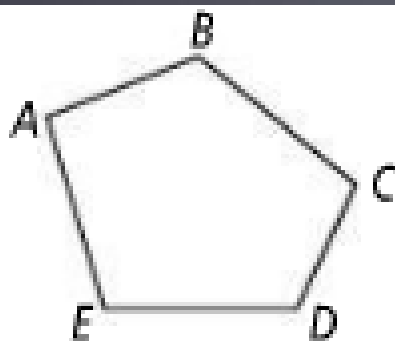
UNIT 1 LESSON 6

Classifying Polygons

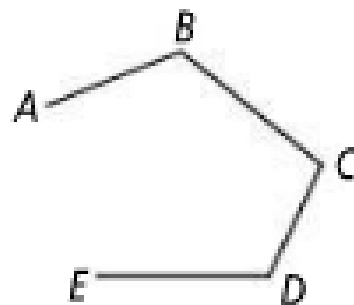
In geometry, a figure that lies in a plane is called a plane figure.

A polygon is a closed plane figure formed by three or more segments. Each segment intersects exactly two other segments at their endpoints. No two segments with a common endpoint are collinear. Each segment is called a side. Each endpoint is called a vertex.

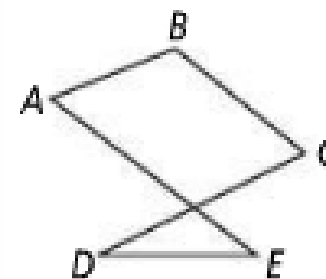
Classifying Polygons



A polygon



Not a polygon;
not a closed figure

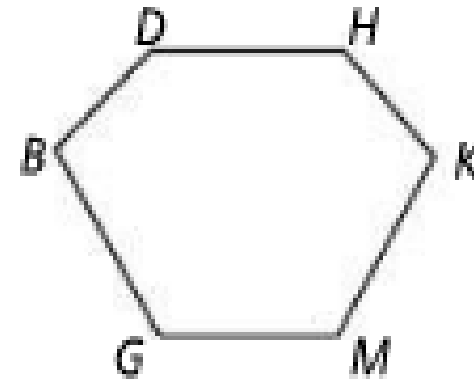


Not a polygon;
two sides intersect
between endpoints.

Classifying Polygons

To name a polygon, start at any vertex and list the vertices consecutively in a clockwise or counterclockwise direction.

Two names for this polygon are DHKMGB and MKHDBG.



Classifying Polygons

You can classify a polygon by its number of sides. The tables below show the names of some common polygons.

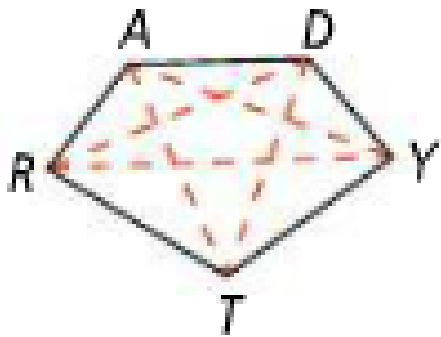
Names of Common Polygons

Sides	Name	Sides	Name
3	Triangle, or trigon	9	Nonagon, or enneagon
4	Quadrilateral, or tetragon	10	Decagon
5	Pentagon	11	Hendecagon
6	Hexagon	12	Dodecagon
7	Heptagon	⋮	⋮
8	Octagon	n	n -gon

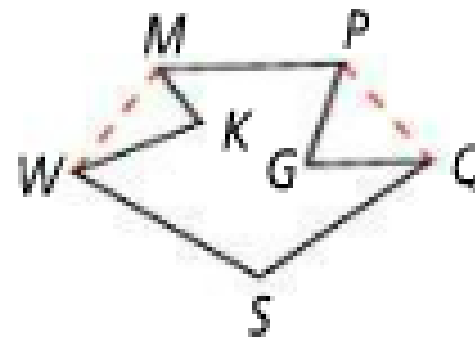
Classifying Polygons

You can also classify a polygon as concave or convex, using the diagonals of the polygon.

A diagonal is a segment that connects two NONconsecutive vertices.



A Convex polygon has no diagonal with points outside of the polygon



A Concave polygon has at least one diagonal with points outside of the polygon