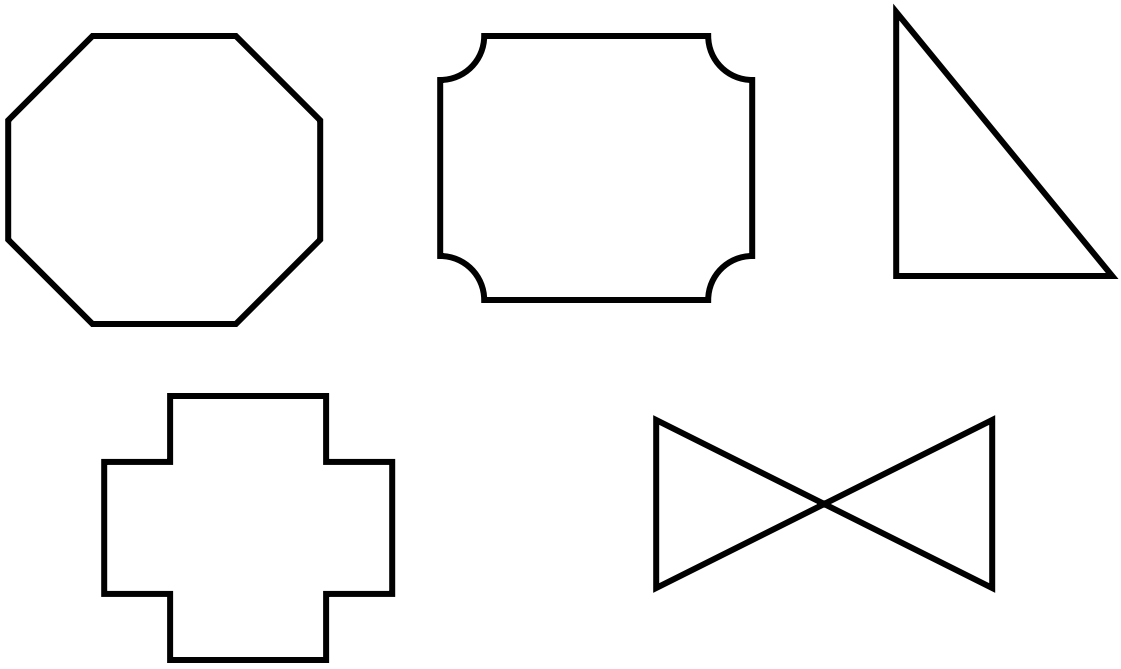
Geometry—Chapter 10

Geometry—Chapter 10-1

Def: Polygon→a closed figure in which

- the sides that have a common endpoint are noncollinear
- each side intersects two other sides only at their endpoints



All of the above are classified as polygons except two…..which two?

Convex poly→if you extend any side in both directions, it will not extend into the interior of the poly.

Concave poly→the extend side will extend into the interior.

Which of the above polys are concave? convex?

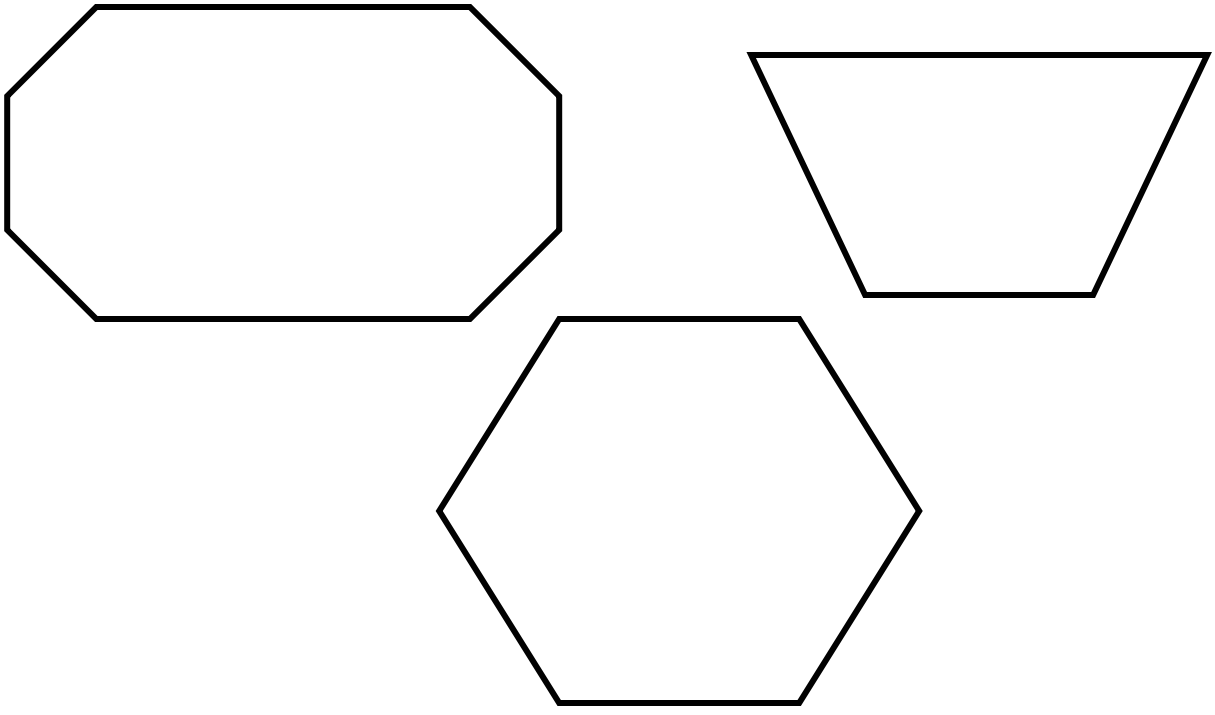
Poly are classified by the number of sides they have.

- 3-sided→triangle
- 4-sided→quadrilateral
- etc…..see page 515

In general……a polygon with n-sides is called an n-gon.
EX: 9-sided→nonagon ; 9-gon

Regular Polygon→a convex polygon with

- all angles congruent
- all sides congruent



Sum of the measures of the **Interior** Angles

S = 180 (n-2) **;** *n* = number of sides of poly

Measure of **each interior angle** in a **Reg**. Poly.
Interior Angles------

$$\text{Measure of each Interior Angle} = \frac{180(n-2)}{n}$$

Any Poly—Exterior Angles-----

one at each vertex

Sum of the **Exterior Angles = 360°**

Only in **Reg**ular polys-----

$$\text{Measure of each Exterior Angle} = \frac{360}{n}$$

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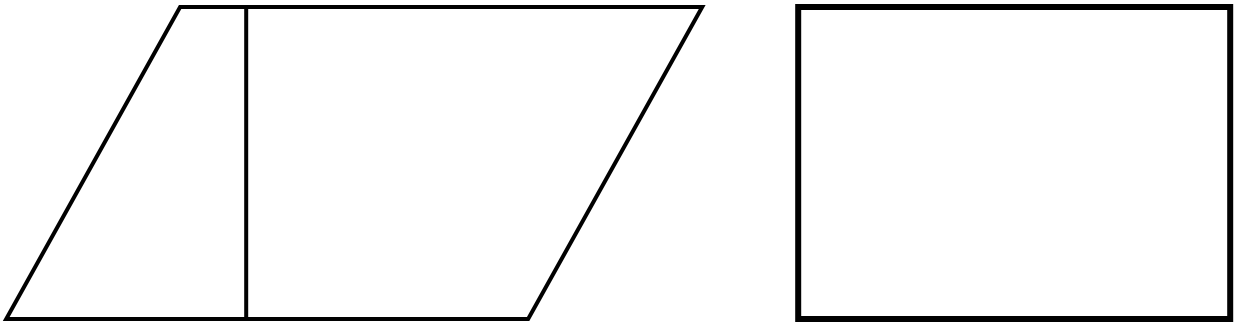
Geometry—Chapter 10-3

Area of Parallelograms

$$\mathrm{A}\langle \text{parallelgram} \rangle = b \cdot h \qquad b = \text{base}; \quad h = \text{height}$$

base→any side of a parallelgram

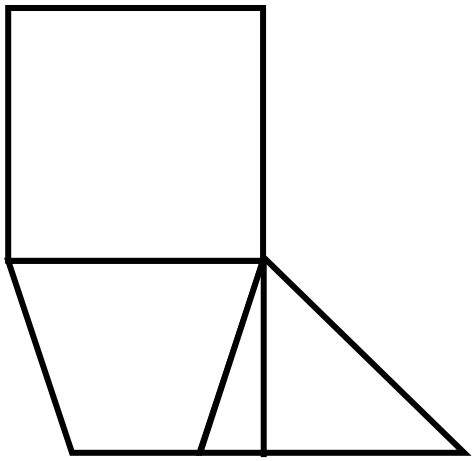
height→the altitude, perpendicular segment between 2 opposite bases



Remember that A⟨rectangle⟩ = (length) (width)

Also $\mathrm{A}\langle \text{parallelgram} \rangle = b \cdot h$

Note: The area of any region is the sum of the areas of all of its non-overlapping parts.



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Geometry—Chapter 10-4

Geometry—Chapter 10-5

Geometry—Chapter 10-6