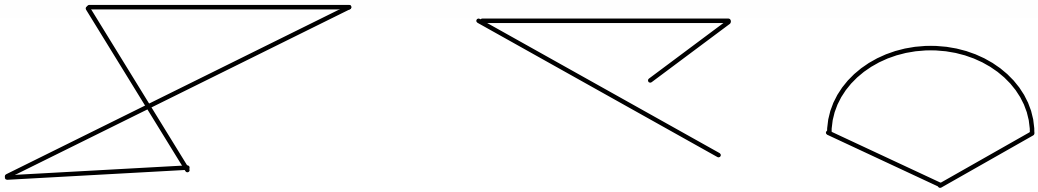
Def. Polygon

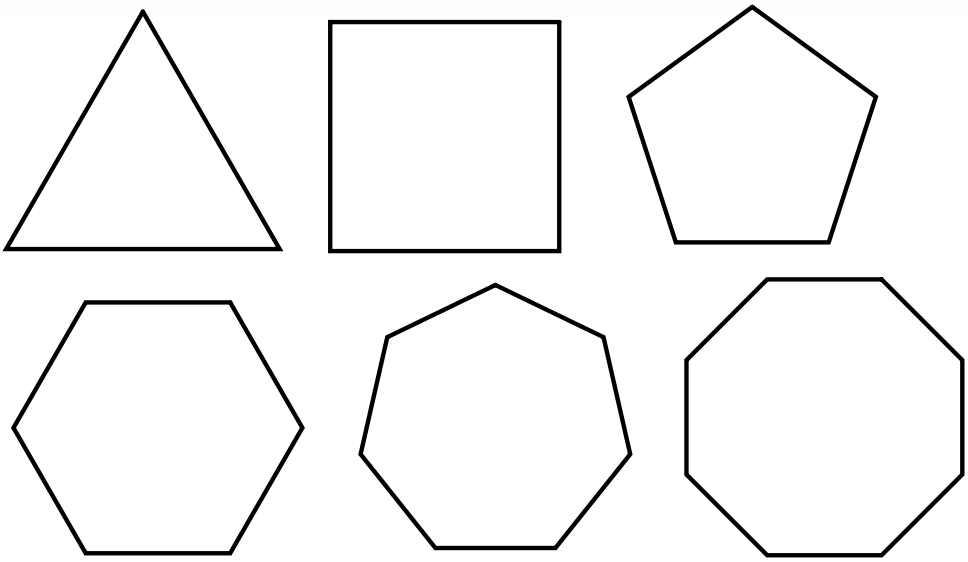
A polygon is a closed figure formed by 3 or more coplanar segments such that:

1. The sides that share a common endpt. are noncollinear.
2. Each side intersects exactly 2 other sides, but only at the endpts.



Def. Diagonal

A segment that joins nonadj. vertices of a polygon.



Th. 6-1 Int. ∠ Sum Th.

If a convex polygon has *n* number of sides and S is the sum of the measures of interior ∠'s then $S = 180(n - 2)$.

What is the sum of the measures of the interior angles:

of a nonagon?

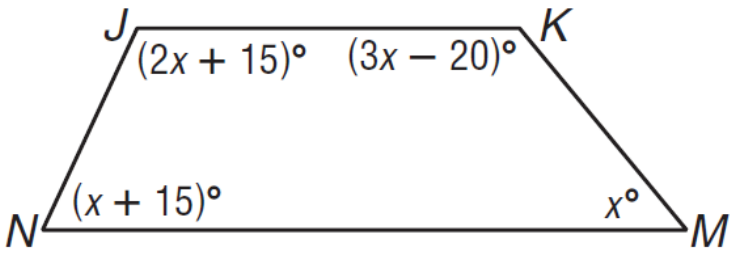
of an octagon?

of a 16-gon?

of a 2x-gon?

The measure of an interior angle of a regular polygon is 135. Find the number of sides in the polygon.

Find *x*, and the value of each angle measure, in the polygon shown.

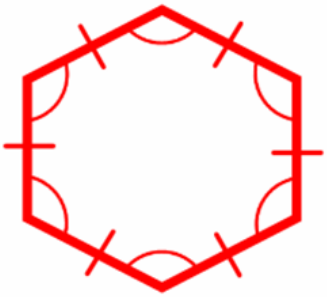


Th. 6-2 Ext. ∠ Sum Th.

If a polygon is convex, then the sum of the measures of the exterior ∠'s, 1 at each vertex, is 360°.

Def. Regular Polygon

A convex polygon with all sides and all ∠'s ≅.



Find the measures of an interior angle and an exterior angle for each regular polygon. Round to the nearest tenth if necessary.

16-gon

24-gon

30-gon

*** Keep in mind that it must be a **regular polygon** for us to find the angle measures using this method!

Homework

(as on Assignment Guide on Quia page)

Section 6-1

#2-8, 15-20, 23-29, 39-42