

Tuesday, November 2nd

Due Today: Section 3-4

Warm Up

Two identical regular tetrahedrons are each painted with 1 red face, 1 blue face, 1 green face, and 1 yellow face.

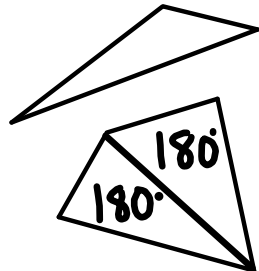
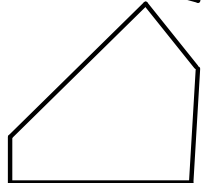
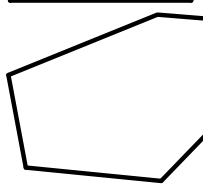
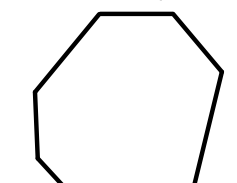
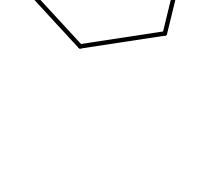


Will they always be painted in the same way?

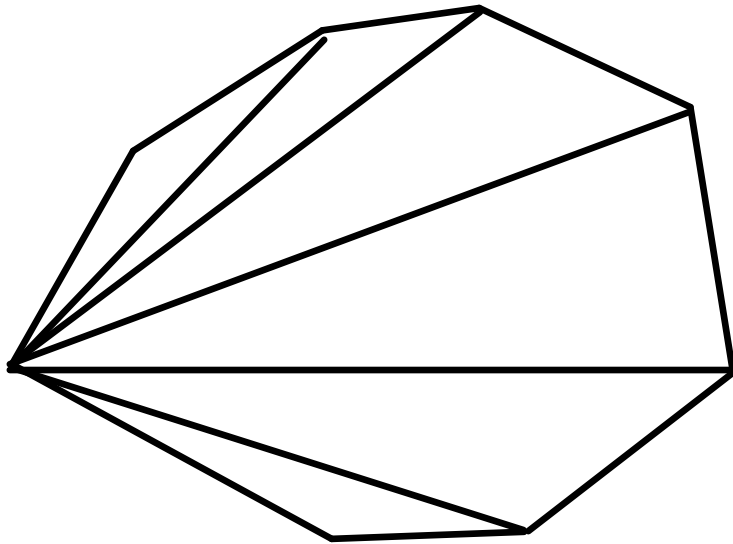
Section 3-5 : The Polygon Angle-Sum Theorems

Can we generalize the relationship between the number of sides a polygon has and the interior angle sum of the polygon?

Searching for a pattern...

| | <u># of sides</u> | <u>Interior angle sum</u> |
|---|-------------------|---------------------------|
|  | 3 | 180° |
|  | 4 | 360° |
|  | 5 | 540° |
|  | 6 | 720° |
|  | 7 | 900° |
| | n | $(n-2) \times 180$ |

OYO:) Identify the shape, and determine the interior angle sum.



OCTAGON

$$S = (n - 2) \times 180$$

$$S = (8 - 2) \times 180$$

$$S = 6 \times 180$$

$$S = 1080^\circ$$

Polygon Exterior Angles:

Create a polygon!

Keep it between quadrilateral and hexagon.

Theorem 3-14 Polygon Angle-Sum Theorem

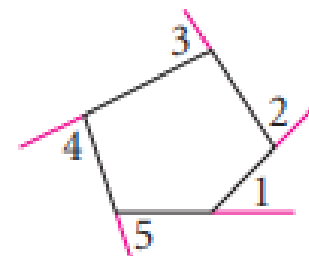
The sum of the measures of the angles of an n -gon is $(n - 2)180$.

Theorem 3-15 Polygon Exterior Angle-Sum Theorem

The sum of the measures of the exterior angles of a polygon, one at each vertex, is 360.

For the pentagon,

$$m\angle 1 + m\angle 2 + m\angle 3 + m\angle 4 + m\angle 5 = 360.$$



Practice :

Section 3-5 :

#17, 18, 21, 23, 25, 33, 35, 38, 42, 43, 48, 49