Section 4 - Interior and Exterior Angles of Polygons Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Vocab:

 **Interior Angles Exterior Angles**

 Determine the Sum of Interior Angles

|  |  |  |  |
| --- | --- | --- | --- |
| **Polygon** | **# of Sides** | **# of Triangles Formed** | **Interior Angle Sum of Polygons** |
| Triangle |  |  |  |
| Quadrilateral |  |  |  |
| Pentagon |  |  |  |
| Hexagon |  |  |  |
| Heptagon |  |  |  |
| Octagon |  |  |  |

 Now, look at the results in your table. Do you notice a pattern?  Write a rule for finding the sum of the measures of the interior angles of a polygon with n sides.

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Ex. 1

1. Find the sum of the measures of the interior angles.
2. Find the measure of ONE interior angle

Ex. 2

 Find x.

 

Ex. 3

 The sum of the interior angles of a polygon is 720. Find the number of sides.

Ex. 4:

 If the sum of the interior angles of a n-gon is 2520 degrees, how many sides does the polygon have?

 **Walk the Line**

 Determine the Sum of Exterior Angles of a Polygon

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Ex. 5

 Find the measure of ONE exterior angle of a regular hexagon.

Ex. 6

 Find the measure of ONE exterior angle of a regular heptagon.

Ex. 7

 The measure of the exterior angle of a quadrilateral are x, 3x, 5x, and 3x. Find the measure of each angle.

Ex. 8 Ex. 9

 Find x. Find x.

 

Ex. 10

 Find x.

 