Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #:\_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_\_

**3.3A Interior Angles of Polygons\_Classwork**

*Objective: Discover the sum of the interior angle measures of polygons. Find the measures of interior angles of polygons. (CCSS: 8.G.5)*

*Choose one vertex and draw all possible diagonals from that vertex*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Convex Polygon Name** | **Diagram** | **Numbers of Sides** | **Number of Diagonals From One Vertex** | **Number of Triangles** | **Sum of Interior Angles** |
| **Quadrilateral** | Image result for quadrilateral |  |  |  |  |
| **Pentagon** | This picture features a pentagon. A pentagon is a polygon (2D shape) with 5 sides and 5 interior angles which add to 540 degrees. |  |  |  |  |
| **Hexagon** | Image result for irregular hexagon |  |  |  |  |
| **heptagon** |  |  |  |  |  |
| **Octagon** | Image result for octagon |  |  |  |  |

**Theorem of the Interior Angles of a Polygon:**

|  |  |
| --- | --- |
| **Example 1:** Find the sum of the interior angle measures of the polygon. | **Example 2:** Find the sum of the interior angle measures of the polygon. |
| **Example 3:** Find the value of x.  | **Example 4:** Find the value of x. |
| **Example 5:** Find the value of x. | **Example 6:** Find the value of x. |
| **Example 7:** | **Example 8:** |