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

**3.3B NOTES – Angles of Polygons**

*Objective: Use the sum of 360o for the exterior angle measures of polygon to find missing angle measures. Find the measure of each interior angle of a regular polygon (CCSS: 8.G.5)*

*HW: (3.3B) p. 124 #16 –24 (If you are doing on paper, copy the figures)*

**https://www.youtube.com/watch?v=BG1HpadfiKw&feature=youtu.be**

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| **REVIEW:** In a **REGULAR POLYGON**, all the sides are congruent, and all the interior angles are congruent. Find the measure of each interior angle of a regular hexagon.

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|  | **Step 1:** Find the sum of the interior angles; use the formula:**S = (n – 2)** $∙ $**180****Step 2:** Find the measure of each interior angle:**Sum of interior angles ÷ n** |

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*Find the measure of each interior angle of the regular polygon.*

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| --- | --- | --- |
| 1. Octagon
 | 1. Decagon
 | 1. 18-gon
 |

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| **Key Ideas: Exterior Angle Measures of A Polygon**

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|  | **WORDS:** The sum of the measures of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ angles of a convex polygon is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**ALGEBRA:** w + x + y + z = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| READ EXAMPLE 4 (P. 122) and then do On Your Own #9**Example 1:** Find the measures of the exterior angles of the polygon. |
| **Example 2:** Find the measures of the exterior angles of each polygon.  |
| **Example 3:** Find the measures of the exterior angles of each polygon. |
| **Example 4:** Find the measures of the exterior angles of each polygon. |
| **Example 5:** Find the measures of the exterior angles of each polygon. |
| **Example 6:** The interior angles of a regular polygon each measure 144o. How many sides does the polygon have? | **Example 7:** The interior angles of a regular polygon each measure 120o. How many sides does the polygon have? |