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

**3.3B Exterior Angles of Polygons\_Classwork**

*Objective: Discover the sum of the exterior angle measures of polygons. Find the measures of exterior angles of polygons. Find the measure of each interior angle of a regular polygon (CCSS: 8.G.5)*

*HW: (3.3B) p. 124 #16 –24 (copy the figures) – Solutions on p. A18)*

*Video:* [*https://www.youtube.com/watch?v=BG1HpadfiKw*](https://www.youtube.com/watch?v=BG1HpadfiKw)

**WARM-UP**

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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** |

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

|  |  |  |
| --- | --- | --- |
| 1. Nonagon
 | 1. 13-gon
 | 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? |



