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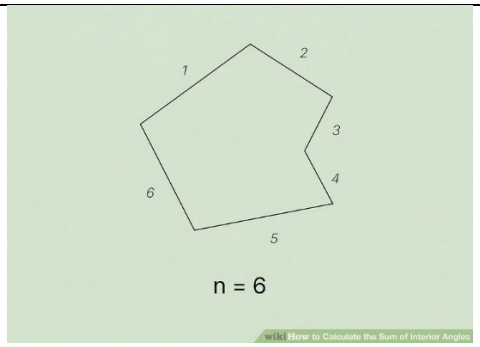
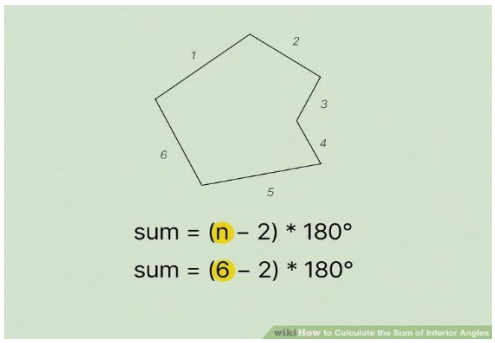
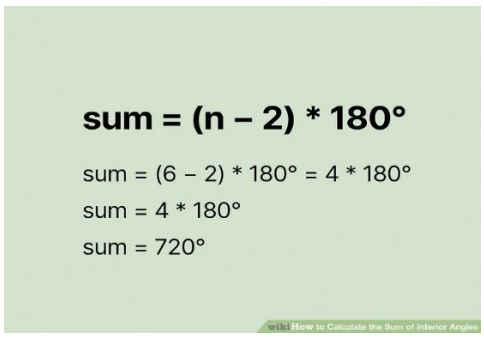
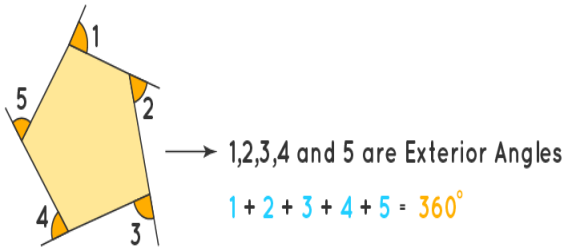
BASIC 8

WEEKLY LESSON PLAN – WEEK 4

Strand:	Geometry and Measurement		**Sub-Strand:**	Equations and Inequalities	
Content Standard:	B8.3.1.1 Demonstrate understanding and use of the relationship between parallel lines and alternate and corresponding angles and use the sum of angles in a triangle to deduce the angle sum in any polygon				
Indicator (s)	B8.3.1.1.2 Determine the values of sum of given angles in a triangle using knowledge of the sum of interior angles in a triangle and other properties		**Performance Indicator:** Learners can add angles in a triangle.		
Week Ending	28-04-2023				
Class	B.S.8	**Class Size:**		**Duration:**	
Subject	Mathematics				
Reference	Mathematics Curriculum, Teachers Resource Pack, Learners Resource Pack, Textbook.				
Teaching / Learning Resources	Poster, Pictures, Word Chart.		**Core Competencies:**	• Ability to select the most effective creative tools for working and preparedness to give explanations • Imagining and seeing things in a different way	

DAY/DATE	**PHASE 1 : STARTER**	**PHASE 2: MAIN**	**PHASE 3: REFLECTION**
MONDAY **24-04-2023**	Review Learners knowledge on the previous lesson.	1. Demonstrate finding for the sum of interior angles in a regular Polygon. 2. Learners brainstorm to find the value of angles in a regular hexagon. 3. Assist Learners to find the value of unknown variables in a regular hexagon. **Steps to follow;** o Set up the formula for finding the sum of the interior angles. The formula is sum = (n-2) x 180, where sum is the sum of the interior angles of the polygon, and 'n' equals the number of sides in the polygon	Through questions and answers, conclude the lesson. Exercise; 1. How do I calculate the number of sides of a polygon if the sum of the interior angles is 1080? 2. If two equilateral triangles are placed together to

		 ○ Count the number of sides in your polygon  ○ Plug the value of 'n' into the formula  ○ Solve for 'n'. **Example:** What is the Sum of the Interior Angles in a Hexagon? **Solution:** A hexagon has 6 sides, therefore, n = 6 The sum of interior angles of a regular polygon, S = (n − 2) × 180 S = (6-2) × 180° ⇒ S = 4 × 180 ⇒ S=720°	form a rhombus, how do I calculate the value of each interior angle of this rhombus, and how do I find the sum?

		Therefore, the sum of interior angles of a hexagon is 720°.	
TUESDAY **25-04-2023**	Review Learners knowledge on the previous lesson.	1. Assist Learners to explain what an exterior angle is. 2. Demonstrate calculating for the sum of an exterior angle of a polygon. 3. Learners brainstorm to find for the sum of exterior angle of a Polygon. Sum of Exterior Angles of a Polygon   The sum of the exterior angles of a polygon is equal to 360°. This can be proved with the following steps: • We know that the sum of the interior angles of a regular polygon with 'n' sides = 180 (n-2). • The interior and exterior angle at each vertex form a linear pair. Therefore, there will be 'n' linear pairs in the polygon. Now, since each linear pair sums up to 180°, the sum of all linear pairs will be: 180n°. • So, the sum of exterior angles = Sum of all linear pairs - Sum of interior angles • This means: Sum of exterior angles = 180n – 180(n-2) = 180n – 180n + 360. Hence, the sum of exterior angles of a pentagon equals 360°.	Reflect on finding for the sum of exterior angle of a polygon. **Exercise;** 1. If the three interior angles of a quadrilateral are 96°,114°, and 41°, what is the measure of the fourth interior angle? 2. The exterior angles of a regular pentagon are y, 2y, 3y, 4y, and 8y. What is the size of the smallest interior angle of this pentagon?

THURSDAY **27-04-2023**	Through questions and answers, review Learners knowledge on the previous lesson.	1. Discuss with Learners how to calculate the number of sides of a polygon. 2. Assist Learners to find the number of sides of polygons. 3. Learners in small groups practice finding for the sum of interior and exterior angles when the number of sides of the Polygon is given. Question The interior angle of a regular polygon is 156°. Find the number of sides of the polygon Solution The interior angle of a regular polygon is 156 deg. Hence each exterior angle is 180–156 = 24 deg. So the polygon has 360/24 = 15 sides.	Summarize the lesson. **Exercise;** 1. If the interior angle of a regular polygon is double the exterior angle, find the number of sides of polygon. 2. If an exterior angle of a regular polygon is equal to its an interior angle, find the number of sides in the polygon. An exterior angle and an interior angle of a regular polygon are in the ratio 2:7. Find the number of sides in the polygon.

Name of Teacher: ***School:*** ***District:***