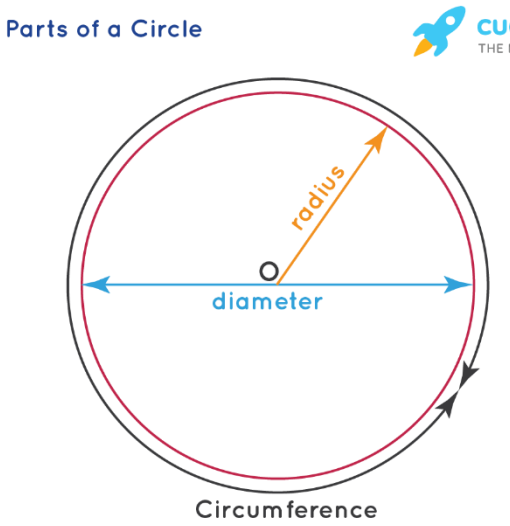
or 0248043888
https://www.TeachersAvenue.net
https://TrendingGhana.net
https://www.mcgregorinriis.com

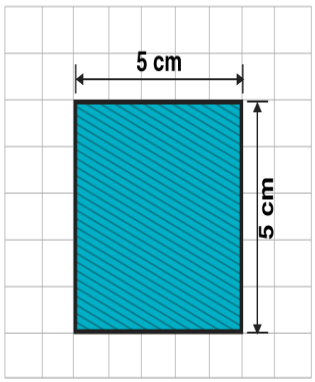
BASIC 8

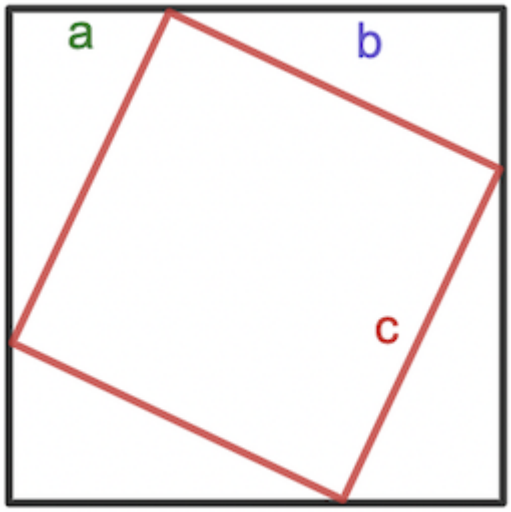
WEEKLY LESSON PLAN – WEEK 6

Strand:	Geometry and Measurement	**Sub-Strand:**	Measurement
Content Standard:	B.8.3.2.1 Apply the Pythagoras theorem, the primary trigonometric ratios and the formulas for determining the area of circle to solve real problem.		
Indicator (s)	B8.3.2.1.1 Use the relationship between the diameter and circumference of a circle to deduce the formula finding the area and use this to solve problems B8.3.2.1.2 Establish the relationship between the hypotenuse 'c' and the two other sides 'a' and 'b' of a right-angled triangle (i.e., a2 + b2 = c2) and use it to solve problems	**Performance Indicator:** Learners can find the area, circumference and the diameter of a circle.	
Week Ending	12-05-2023		
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 **08-05-2023**	Discuss with Learners the meanings of terminologies related the topic. **Terminologies;** • Circumference • Sector • Radius • Area • Diameter • Trigonometric • Pythagoras	1. Assist Learners to identify the formula for finding the area of a circle. 2. Demonstrate using a formula to find for the area of circle. 3. Learners brainstorm to solve problems on finding the area of a circle. 4. Learners in small groups discuss to calculate for the radius of circles with the area given. **Area of a Circle** The area of a circle is the amount of space enclosed within the boundary of a circle. The region within the boundary of the circle is the area occupied by the	Individual Learners brainstorm to calculate for the area of a semi-circle using a formula. **Exercise;** 1. If the length of the radius of a circle is 4 units. Calculate its area.

		circle. It may also be referred to as the total number of square units inside that circle. **Area of Circle = πr^2 or $\pi d^2/4$ in square units, where** • (Pi) π = **22/7 or 3.14.** • r = radius of the circle • d = diameter of the circle Pi (π) is the ratio of circumference to diameter of any circle. It is a special mathematical constant 	2. The length of the largest chord of a circle is 12 units. Find the area of the circle. 3. Find the circumference and the area of a circle whose radius is 14 cm.
TUESDAY **09-05-2023**	Review Learners knowledge on the previous lesson by given them more examples on finding for the area of a circle to solve.	1. Discuss the formula for calculating for the area of a square with the Learners. 2. Assist Learners to construct squares on the three sides of a right-angled triangle in a square grid. 3. Learners brainstorm to compare the area of the square on the hypotenuse to the squares on the other two sides to state the relationship between the hypotenuse and the two sides of a right-angled triangle.	Through questions and answers, conclude the lesson. **Exercise;** 1. The side of a square wall is 75 m. What is the cost of painting it at the rate of Rs. 3 per sq. m? 2. A courtyard's floor which is 50 m long and 40 m wide is to be covered by square

		AREA OF A SQUARE FORMULA  **Area of a Square = Side × Side** **Therefore,** the area of square = Side^2 square units **and** the perimeter of a square = 4 × side units **Example :** Find the area of a square clipboard whose side measures 120 cm. **Solution:** Side of the clipboard = 120 cm = 1.2 m Area of the clipboard = side × side = 120 cm × 120 cm = 14400 sq. cm = 1.44 sq. M	tiles. The side of each tile is 2 m. Find the number of tiles required to cover the floor 3. A courtyard's floor which is 50 m long and 40 m wide is to be covered by square tiles. The side of each tile is 2 m. Find the number of tiles required to cover the floor
THURSDAY **11-05-2023**	Discuss the concept of "Pythagoras Theorem" with the Learners.	1. Demonstrate solving word problems involving Pythagoras theorem with the Learners. 2. Assist Learners to solve word problems involving Pythagoras theorem. 3. Assist Learners to find missing sides of right-angle triangles using the Pythagoras theorem. **Pythagoras** **Pythagoras** was a fifth century BCE Greek philosopher and mathematician who is credited with several scientific and mathematical discoveries, most notably the Pythagorean theorem. Although the Pythagorean theorem was popularized by Pythagoras, other ancient mathematicians in ancient civilizations such as Babylon and China had previously formulated the idea.	Reflect on the use of Pythagoras theorem to solve word problems. **Exercise;** 1. Perry wants to replace the net on his basketball hoop. The hoop is 10 feet high. Perry places his ladder 4 feet from the

		Pythagoras was the first to prove its validity for all right triangles. **Pythagoras Theorem Proof** The Pythagorean theorem can be proven in several different ways. To prove the theorem algebraically, begin with a diagram of a tilted square inside another square.  *The inner tilted square forms four right triangles* The area of the larger square can be determined in two ways: i. A=(a+b)2=2 ii. the sum of the areas of the four triangles and the inner square. Since both methods produce the same result, the two methods are equal. So, mathematically, (a+b)2=4(ab/2)+c2 a2+2ab+b2=2ab+c2 a2+b2=c2 **Example;** The diagram below shows the roof of a house. Suppose you need to replace a beam that connects the two sides of the roof. How long should be beam be?	base of the hoop. How long must the ladder be to reach the hoop? 2. Clayton is responsible for changing the broken light bulb in a streetlamp. The streetlamp is 12 feet high. Clayton places the base of his ladder 4 feet from the base of the streetlamp. Clayton can extend his ladder from 10 feet to 14 feet. How long must his ladder be to reach the top of the streetlamp? 3. A ladder is leaning against the side of a 10 m. house. If the base of the ladder is 3 m. away from the house, how tall is the ladder?

Pythagorean theorem word problem

The beam is the horizontal line and its length is shown with a red line. Notice that the sides of the roof have the same length. Furthermore, since the two sides of the roof make a right triangle, we can use the Pythagorean theorem to find the length of the beam.

$c^2 = a^2 + b^2$

$c^2 = 25^2 + 25^2$

$c^2 = 625 + 625$

$c^2 = 1250$

$c = \sqrt{1250} = 35.35$

The length of the beam is 35.35 feet.

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