**Mathematics Project second term for Class 9 (DS)**

**Last Date of submission Wednesday 12 August 2020**

**MATHEMATICS PROJECT 1**

**1. Find the value of π,**

**2. Verify Area of Circle = π r2**

**1. Procedure: Construct 3** **circles of radius multiple of 7. E.g. 3.5,4.2, 4.9, 5.6,6.3, 7, 8.4,**

**Place a string around its circumference.**

**Measure the length of the string.**

**Find π by using formula π = c/d**

**2. Procedure: Construct 3 circles of radius multiple of 7. E.g. 7, 8.4, 9.1, 7.7, 6.3 ….**

**Take arc about 1cm and cut through circumference.**

**Join the end of arc to the centre of the circle and cut it out.**

**Arrange the pieces to form a rectangle whose breadth is equal to the radius of the circle.**

**Measure the length of rectangle. Find the area of rectangle = l X b**

**Verify with the formula of area of circle.**

**MATHEMATICS PROJECT 2**

**CLASS: 9**

**TOPIC: PYTHAGORAS THEOREM**

**STATEMENT:** In a right angled triangle, the square of the hypotenuse is equal to the sum of the squares of other two sides.

**OBJECTIVE:** To verify the above theorem through activity.

**PRE-ACQUIRED KNOWLEDGE:** Definition of a square and triangle formula for the area of square.

**MATERIAL REQUIRED:**

1. Drawing sheet/ coloured chart paper

2. Geometry box

3. Pair of scissors

4. Fevistick/gum

**PROCEDURE:**

1. Draw any right angled triangle ABC, right angled at C on a coloured chart paper. Let the lengths of AB, BC and CA be 4 cm, 3 cm and 5 cm respectively.

2. Construct squares on AB, BC and CA. Let the colours of the squares be yellow, green and blue.

3. Make 8 exact replicas of ABC (Red)

4. Take 4 replicas of ABC along with the one replica each of green and blue squares all on a sheet as shown in figure 2.

5. Take the remaining 4 replicas of ABC (red) and one replica of yellow square and paste on one sheet as shown in the figure 3.

**RESULT:**

1. We observe that each of the figure as shown in figure 2 and figure 3 is a square of side (a + b) units.

2. Therefore, area of the square in figure 2 = area of square in figure 3

3. Now 4 replicas of ABC is removed from both fig 2 and fig 3.

4. Hence, remaining areas of both figures are equal.

5. Hence, area of green square + area of blue square = area of yellow square

6. Hence, a2 + b2 = c2. Hence proved



