MATHEMATICS EXAMINATION TEST 2021-22

Std : X   **Score : 40**

Time : 1½hour

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1 . Consider the Arithmetic sequence 3 , 5 , 7 ,...

a) What is its common difference ? (1)

b) Is 100 is a term of this sequence ? Why ? (1)

2. In triangle ABC , <A = 90° , <B = 60° .

a) Find <C ? (1)

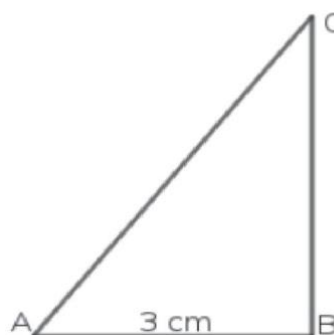**b) If we draw a circle with AB as diameter what is the position of C ? (1)**

(On the Circle , Inside the Circle , Outside the Circle)

3. The numbers from 1 to 30 are written in a paper slip at put it in a box.

a) What is the Probability of getting an Even number ?

b) What is the Probability of being a multiple of 5 ? (2)

4. In the figure , Cos A = $\frac{3}{5}$

a) What is the length of AC ? (1)

b) Find Sin A ? (2)

5. When Sides of a Square is increased by 2m the area becomes 64 sq.cm. Calculate the length of the first Square ? (3)

6. The Sum of two consecutive Odd numbers is 195 . What are the numbers ? (3)

7. Draw a Triangle of circumradius 3.5 cm and angles 50° , 70° . (3)

8. A Sector of central angle 120° cut from a circle of radius 10 cm and rolled up to make a cone .

a) What is the Slant height ? (1)

b) Find the Base radius ? (1)

c) What is its height ? (1)

9. Draw a circle of radius 4cm and mark a point A on the circle and draw tangent through A . (3)

10. A circle of radius 5cm and a point A is marked 13cm away from the centre of the Circle . Find the length of Tangent. ? (3)

11. Write $X^2 - 4$ as a product of two first degree polynomials . ? (3)

12. If $p(x) = x^2 + 7x + 6$

a) What is p(1) ? (1)

b) Write p(x) as factors of two first degree polynomials? (2)

13. The coordinates of ends of diameter of a circle is (4,5) and (2,7) ;

a) Calculate the radius of the circle ? (1)

b) Write the equation of the Circle ? (2)

14. Draw a circle of radius 3.5cm and mark a point p 7cm away from the circle . Draw tangents from P to circle . Measure it's length (4)