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De Mazenod College, Kandana

Mathematics

First Term Test202 4 **Grade 7** **Time 2 Hours**

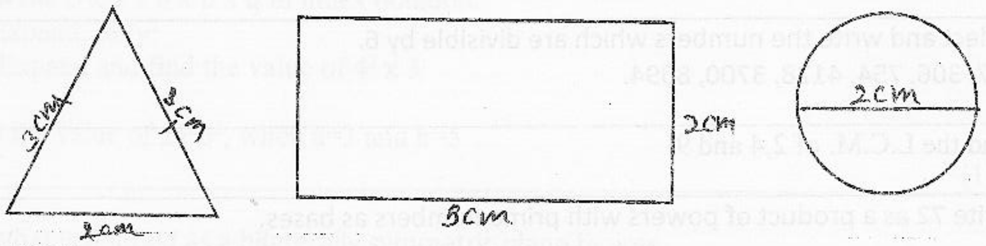
Part I

- **Answer all questions.**
- **Each question carries 02 marks.**

1. Simplify.
   $2 + 5 \times 4 \div 2$

2. Write the elements of the set, square numbers between 0 and 20.

3. Make a compound figure using the below shapes and draw the axes of symmetry for the new compound figure. (use all the figures)



4. The number $56\boxed{\ }$ is divisible by 9. Fill in the box with a suitable digit.

5. If the given sentence is correct mark " / ", if incorrect mark "X".

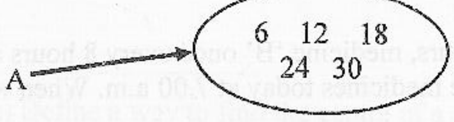
   The number of axes of symmetry in a circular lamina is greater than the number of axes of symmetry in a rectangle. (______)

6. Write all the multiples of 4 between 20 and 30.

7. Find the value of (-2) + (-1) using the number line.

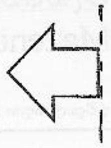
8. Write how the index notation 5^3 is read.

9. Set 'A' has been represented by a Venn diagram. Express set 'A' in a different form by writing the elements.



10. Mark (√), if the statements are correct and (X), if the statements are incorrect.
    i) $7 + 1 \times 3 = 24$ ( )
    ii) $12 - 4 \div 2 = 10$ ( )

11. Copy the figures given below and complete them to obtain a bilaterally symmetric figure.



12. Find the value of 5(29 + 3).

13. Write 54 as a product of prime factors.

14. In a certain class, 24 chocolates, 60 toffees and 84 lollipops were given to distribute among the students. Each student got each item equally. Find the number of students in that class.

15. Find out whether 154 is divisible by 3, 4, 6 and 9 without dividing.

16. Fill in the blanks.
i) (+3) + _____ = (+8)
ii) _____ + (-5) = (+2)

17. If x=2 and y=1 , find the value of $4x^2y$.

18. Select and write the numbers which are divisible by 6.
267, 306, 754, 4128, 3700, 8094.

19. Find the L.C.M. of 2,4 and 9.

20. Write 72 as a product of powers with prime numbers as bases.

Part II

- **Answer Question 01 and four more questions.**

1.

a)

i. What are factors?
ii. Write all the factors of 42. (full marks will be given only for writing all the factors)
iii. Write the first 5 multiples of 12.

b)

i. Find the H.C.F. of 16, 24, 32.
ii. ඎබා ඵයෟ බගඝාඵ දෙ 14ල 35ල 42ශ

c) A person should take the medicine 'P' once every 4 hours, medicine 'B' once every 8 hours and medicine 'C' once every 16 hours. The person took all three medicines today at 7.00 a.m. When will he take all three medicines at the same time again?

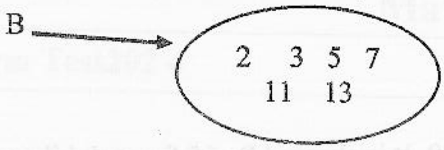
(16 marks)

2. a) i) What is called a set?

ii) What is the method called expressing the elements of a set inside a closed figure?

b) i) P = { Multiples of 3 between 1 and 20} , write set 'P' listing all the elements.

ii)



Write set 'B' in terms of common property of its elements by which the elements can be clearly identified.

iii) A= {Letters of the word "waterfall" }
Write all the elements of set 'A' within curly brackets.

(11 marks)

3. a) i) Write 125 in index notation with 5 as base.

ii) Write 36 as a product of powers with prime numbers as bases.

b) i) Write $3 \times 3 \times p \times p \times q$ in index notation.

ii) Expand, $5x^3y^2$

iii) Expand and find the value of $4^2 \times 3$

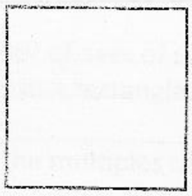
c) Find the value of $2a^2b^2$, when a=3 and b=5

(11 marks)

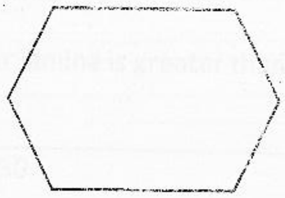
4. a) i) What is defined as a bilaterally symmetric plane figures.

b) Draw the axis of symmetry in the given plane figures.

i)



ii)



c) Write the name of a plane figure with the following numbers of axis of symmetry.

i) Only one axis of symmetry.

ii) Two axis of symmetry.

iii) Three axis of symmetry.

iv) Infinite axis of symmetry.

d) i) Define a way to find the centre of a circle.

ii) The teacher says, there is a triangle with no axis of symmetry. Do you agree? Give reasons for your answer.

(11 marks)

5.

a) i) What is the digital root of 6325?

ii) Suggest a method to see whether a number is divisible by 3 without dividing that number.

iii) If the three digit number 84 ☐ is divisible by 6 without a remainder, what are the numbers that can be used to fill the cage.

b) Solve.

i) $8 + 3 \times 4 \div 3$

ii) $200 - (10 \times 4) \div 2 + 10$

iii) The taxi charges for the first kilometre is Rs.80. It is charged Rs.55 for each kilometre above the first. If a passenger travelled 26 kilometres, write a numerical expression for the amount he had to pay and simplify it.

(11 marks)

6. a) Find the value using the number line.

i) $(+5) + (-3)$

ii) $(-3) + (-2)$

b) Evaluate.

i) $(+4) + (+2)$

ii) $(-\frac{3}{7}) + (+\frac{2}{7})$

iii) $(+2.4) + (-4.6)$

iv) $(-3) + (+1)$

c) On a certain day in Tokyo at 3.00 a.m. the temperature was $-3.6\ ^{0}C$. On the same day at 7.00 a.m. the temperature increased by $8\ ^{0}C$. What is the temperature at 7.00 a.m. in Tokyo on that day?

(11 marks)