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Grade 07	**Mathematics**	**02 Hours**

Name / Index No. :

Part - I

- **Answer all the questions on this paper itself.**
- **Each question carries 2 marks.**

01. Express the 5g 450 mg of miligrammes.

02. Represent the set of letters of the word "WATTALA" in a venn diagram.

03. Write the AD 2025 belonging,

    (i)   Decade.

    (ii)   Century.

04. If a copper wire of length 1m 20cm is cut in to equal parts of 15 cm long, find the number of parts that can be cut?
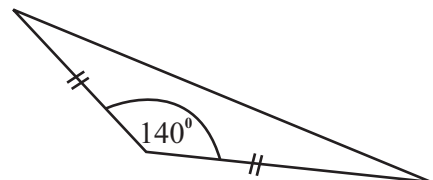
05. Write in index notation, $3 \times 3 \times 3 \times a \times a$

06. Simplify, $5(7-3)+1$

07. Solve the equation, $5x+1=31$

08. Name this triangle,

    (i)   According to the length of sides.

    (ii)   According to the angles.

09. Simplify. $\dfrac{2}{5} + \dfrac{1}{10}$

10. Write two features of a regular polygon ?

11. Find the H.C.F. of 18, 24, 30

12. Arrange the following fractions in ascending order.

$$\frac{1}{2}, \quad \frac{1}{3}, \quad \frac{3}{5}$$

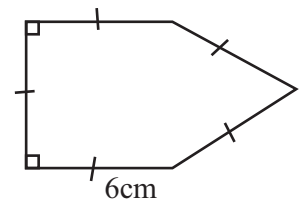13. If the radius of a circle is 8 cm, find the diameter of it ?

14. When $x = 5$ and $y = 2$, find the value of $8y + x$

15. Simplify. $5.72 \div 1000$

16. Find the area of a rectangle, if the length and the width of it are 25 cm and 13 cm.

17. Simplify. $3x + 6y + 5x + 3y + 7$

18. Find the perimeter.

6cm

19. Write 0.35 as a fraction and express it in the smallest form?

20. Underline the numbers which are divisible by 6.

162, 6039, 543, 7212

- **Answer the first question and four other questions.**

- **First question carries 16 marks and other questions carry 11 marks.**

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01. (a) Put a '✔' to the expressions which clearly define a set, and a 'X' to those do not clearly define a set.

      (i)   Vowels of English alphabet   (   )

      (ii) Prime numbers   (   )

      (iii) Talented Singers   (   )

      (iv) Tall students   (   )

      (v) Multiples of 4 between 0 and 20   (   )   (05m.)

  (b) $A = \{$Square numbers from 0 to 20$\}$

      (i)   Write the elements of set A within curly brackets.   (02m.)

      (ii) Is 49 an element of the above set? Give reasons.   (02m.)

  (c) The length of a rectangle is 3 cm more than its width.

      (i)   If the length of the rectangle is x, construct the algebraic expression for the width of it. (01m.)

      (ii) Construct the algebraic expression for the perimeter.   (02m.)

      (iii) If the perimeter is 26 cm, find the length and the width.   (04m.)

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02. (i)   Draw a straight line segment $AB = 6$cm and name the midpoint of it as O.   (03m.)

   (ii) Draw a circle by taking O as the center and OA as the radius.   (02m.)

   (iii) Draw a another circle by taking B as the center and radius is equal to the radius of the above circle and name the intersection points of the two circles as P and Q.   (03m.)

   (iv) Complete the quadrilateral OPBQ and write the special name of it.   (03m.)

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03. This is the diagram of the bottom of a water tank of a house.

      3m

      5m
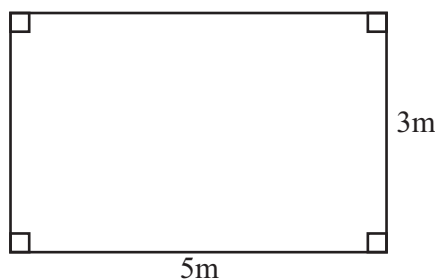
(i) Find the perimeter of the bottom of the water tank. (02m.)

(ii) Find the area of the bottom of the water tank. (02m.)

(iii) There is an idea to apply coating for protection of the bottom. If the application cost per 1 m^2 is Rs. 250/=, find the total application cost? (02m.)

(iv) When height of the above tank is 4m, find the volume of it? (03m.)

(v) If 1 m^3 volume can hold 1000l, find the capacity of the tank in terms of liters. (02m.)

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04. (a) Simplify.

(i) $\dfrac{5}{7} - \dfrac{4}{7}$ (01m.)

(ii) $\dfrac{2}{3} + \dfrac{1}{4}$ (03m.)

(iii) $4\dfrac{3}{5} - 1\dfrac{1}{5}$ (03m.)
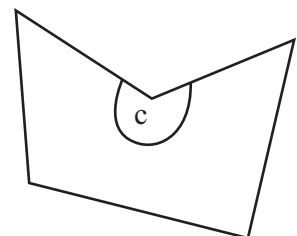
(b) Find the value.

(i) 45.31 x 1000 (02m.)

(ii) 7.51 x 9 (02m.)

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05. (a) (i) Draw the axes of symmetry of this figure. (02m.)

(ii) Name two occasions where you can see parallel straight lines in your day to day life. (02m.)

(b) (i) Name the type of angle C. (01m.)

(ii) Write the type of this polygon. (01m.)

(c) (i) Draw the angle of 50^0 and name it as ABC. (03m.)

(ii) Which type of angle is formed when the minute hand of a clock rotates from the number 1 to number 3. (02m.)

06. (a) Simplify.

    (i) $(+5) + (-3)$ (01m.)

    (ii) $(-4) + (-2)$ (01m.)

  (b) (i) Write 36 as a product of its prime factors. (03m.)

    (ii) When $a = 2$, $b = 3$, find the value of $4a^2b$. (03m.)

  (c) Buses leave from Colombo bus stand every 30 minutes to city A and every 40 minutes to city B. If buses left to both cities at the same time at 9 a.m., at what time did buses again leave to both cities at the same time? (03m.)

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07. (a) Three friends, Samudi, Amaya and Nethmi who are studying in grade 7, took $1l$ $500ml$ bottle of soft drink and drank it completely. Samudi drank $420ml$ and Amaya drank $570ml$.

    (i) Find the amount of drink that Nethmi drank? (03m.)

    (ii) Find how much more drink Amaya drank than Samudi? (01m.)

    Express it in liters. (02m.)

  (b) Simplify,

    (i)

	g	mg
	5	900
+	2	450

(02m.)

    (ii) At the age of 5 years 6 months and 23 days, Bhagya entered to the school. If already she learnt the school at 6 years 7 months and 19 days. Find her age now? (03m.)