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 Grade }

කාලය } 02 Hours
Time }

Paper I

- 1) The extent of land of Sri Lanka is 65610 square kilometers. Write this number in scientific notation.

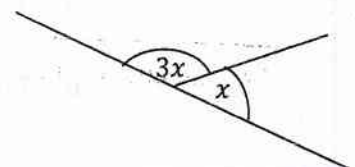
2) Solve : $\frac{x}{5} - 5 = 5$

3) An item is bought by Rs.1000 and sold it by Rs.1150. Find the profit percentage of the item.

4) Price of 3 apples is Rs.90. What is the price of such 5 apples?

5) Round off 9307 to the nearest 100.

6) Find the value of x .



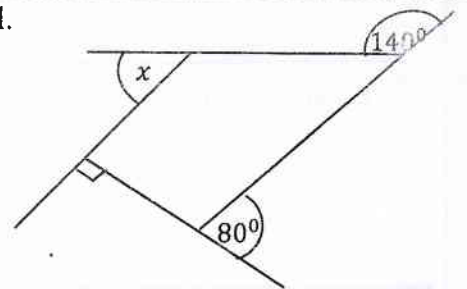
7) Find the value of $(-3)^3$.

8) Find the factor of : $ax + bx - ay - by$

9) Expand and simplify : $(a - 5)(a + 5)$

10) Subject 'x' in the formulae $y = mx + c$.

11) Find the value of x° , using the given data in the quadrilateral.



12) A person is borrowed Rs.20000 as a loan to the 12% annual simple interest rate. After how many years he had to pay Rs.4800 as the interest?

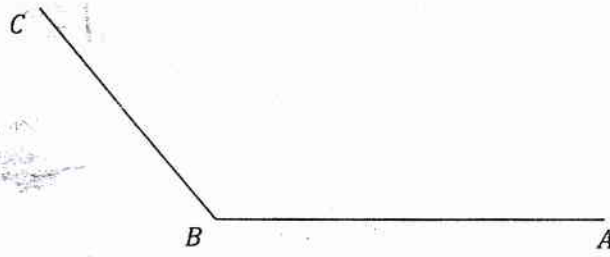
13) Find the circumference of the circle with the radius 3.5 cm . (Take $\pi = \frac{22}{7}$)

14) The equation of a straight line is $y = 3x - 2$. Find

i. The gradient

ii. The intercept

15) Construct the angle bisector of the \widehat{ABC} in the given figure and name it as BD .



16) Simplify:

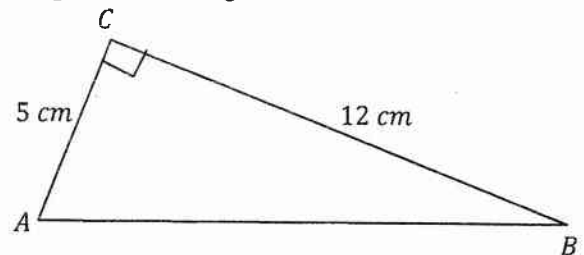
i. $(x^2)^3$

ii. $5x^0$

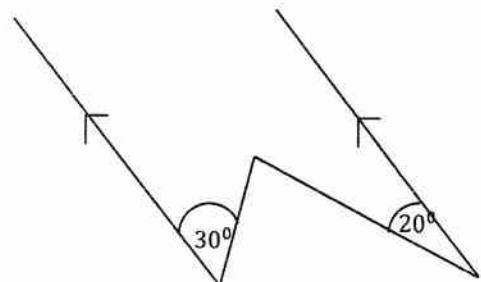
17) Find the perimeter of an equilateral triangle with the length of one side is 3.5 cm .

18) Simplify : $\frac{3}{7} - \frac{1}{2}$ of $\frac{2}{7}$

19) Find the length of AB , by applying pythagoras relationship to the triangle ABC .



20) Find the value of x° , using the given data.



13) Construct the right triangle ABC in the given figure where AB = 4 cm, AC = 3 cm and $\angle A = 90^\circ$.



14) In the given figure, ABC is a triangle and D is a point on BC such that AD is perpendicular to BC. If AB = 5 cm, AC = 4 cm and AD = 3 cm, find the length of BC.

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Paper II

- Answer first question and another four questions.
- First question carries 16 marks and other questions carries 11 marks.
- Write the answers in another paper for Paper II and attach it to the Paper I.

1) Recall the activity that you have done for the lesson Graph in the class room.

(A) (a) The mass of the box is 1 kg. The box is packed by parcels of the mass 2 kg.

- i. If the total mass of the box with one parcel is 3 kg, then find the total mass of the box with 2 parcels. (1 marks)

$$\begin{aligned} 2 \times 1 + 1 \\ = 2 + 1 \\ = 3 \text{ kg} \end{aligned}$$

- ii. When the total mass of box is 9 kg, find the number of parcels in the box. (2 marks)

(b) If the number of parcels is x and the total mass of the box with parcels is y , then include that information to the following table.

x	0	1	2	3	4
y	1	7

- i. Which quantity depends on with the total mass of the box (y)? (1 marks)
- ii. Represent the relation between y and x by a function. (2 marks)
- iii. Draw the graph of the function on a suitable Cartesian plane. (3 marks)

(c) Using the straight line of the above graph, Write

- i. the gradient (1 marks)
- ii. the intercept (1 marks)
- iii. the equation of the straight line which passes through the origin, parallel to the above straight line. (3 marks)

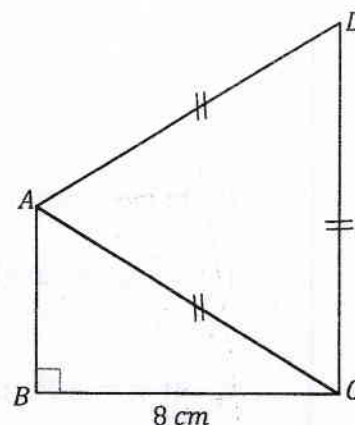
(B) In the straight line passes through the coordinates (0, 0) and (2, 6),

- i. Find the gradient. (2 marks)
- ii. Write the equation in the form $y = mx$. (1 marks)

2) (a) ABC is a right angled triangle. ADC is an equilateral triangle which is drawn on the hypotenuse AC . The perimeter of the triangle ADC is 30 cm and $BC = 8$ cm.

- i. Find the length of AC . (2 marks)
- ii. Calculate the length of AB . (2 marks)

- (b) i. Write $2^5 = 32$, in logarithmic form. (2 marks)
- ii. Write $\log_3 27 = 3$, in index form. (2 marks)



(c) write the suitable values for the blanks. (3 marks)

$$\frac{2^5 \times 2^{[]}}{2^3} = \frac{2^7}{2^3} = 2^{[]} = []$$

3) (a) A cubic shaped tank of a length of a side is 2 m, is completely filled with water. That volume of water,

i. Write in cubic meter? (2 marks)

ii. Write in liter? (2 marks)

iii. If 500 l of water used in one day, how many days can use that water in tank? (3 marks)

(b) Fill in the blanks : $3 : 5 = [] : 30$ (2 marks)

(c) How much Pakistan rupees can buy for 700 Sri Lankan rupees? (2 marks)

(1 Pakistan rupee = 1.40 Sri Lankan rupees)

4) (a) Find the factors.

i. $a^2 - 36$ (2 marks)

ii. $x^2 + 3x - 70$ (3 marks)

(b) Solve: $\frac{x+3}{2} = 5$ (2 marks)

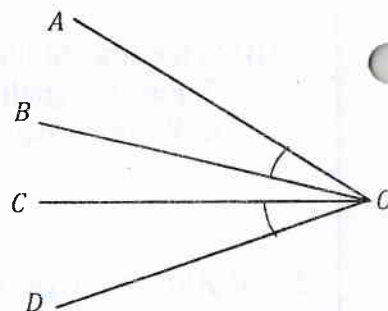
(c) Solve the pair of simultaneous equations:

$$3x - 2y = 7$$

$$x + 2y = 5$$

(2 marks)

5) (a) In the given figure, it is given $\angle AOB = \angle COD$. Using the knowledge of axioms, show that $\angle AOC = \angle BOD$. (3 marks)

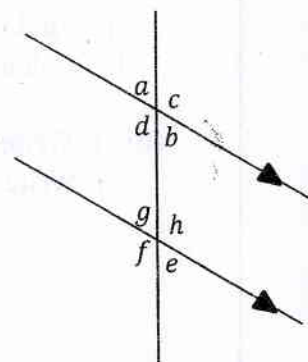


(b) In the given figure, two straight lines are parallel. Using the data,

i. Name two angles that equal to the angle a . Give the reasons. (4 marks)

ii. If $a = 50^\circ$, then find the magnitude of e . (2 marks)

iii. b and h are pair of allied angles. Write the relation between b and h . (2 marks)



6) (a) Using the straight edge and a pair of compasses, construct the following lines.

- Construct the triangle ABC such that $AB = BC = 5\text{ cm}$ and $\hat{ABC} = 120^\circ$. (3 marks)
- Construct the locus that equidistance to the points A and B . (2 marks)
- Construct the perpendicular bisector of the line BC . (2 marks)
- Name the intersection point of the perpendicular bisector and the above locus as O . (1 mark)

(b) Using your construction,

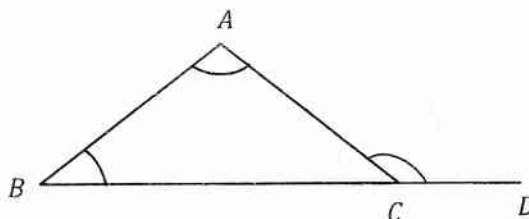
- Measure and write the length of AC . (1 mark)
- Take the center as O and the radius as OA , draw a circle which passes through the points A, B and C . (1 mark)
- Measure and write the radius of the circle. (1 mark)

7) (a) A trader give 15% of discount to an item when it is selling, which has the marked price as Rs.15 000.

- What is the discount when the marked price of an item is Rs.100? (2 marks)
- Find the discount when the marked price of an item is Rs.15 000. (2 marks)
- Find the selling price of that item after giving the discount. (2 marks)

(b) Using the given data in the figure,

- Write down the relation between the angle $\hat{ABC}, \hat{BAC}, \hat{ACD}$. (2 marks)



- Find the value of x and the value of the exterior angle. (2 marks)

