2024.02.09

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மேல் மாகாணக் கல்வித் திணைக்களம்
Department of Education - Western Province

වර්ෂ අවසාන ඇගයීම - 2023 (2024)
ஆண்டிறுதி மதிப்பீடு - 2023 (2024)
Year End Evaluation - 2023 (2024)

ශ්‍රේණිය தரம் Grade	09	විෂයය பாடம் Subject	Mathematics	පත්‍රය வினாத்தாள் Paper	I, II	කාලය காலம் Time	02 Hours

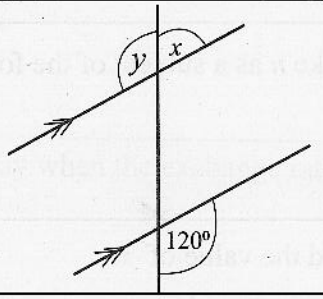
නම பெயர் Name ..... විභාග අංකය சுட்டிலக்கம் Index No. .....

Part I

- **Answer all questions on this paper it self**
- **Each question carries 2 marks**

01. In a certain shop shows this advertisement "15% discount on every bill". If a person buys Rs. 10 000 value item, what is the discount he gets from this shop ?

02. Find the value of x and y.



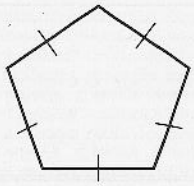
03. If $a = \frac{1}{5}$ and $b = \frac{1}{4}$, find the value of $5a + 8b$.

04. Write the common term of the number pattern 8, 13, 18, 23,.....

05. Find the probability of getting an odd number, if a card randomly drawn from the cards numbered from 1 to 10.

06. Write the number 8.2452×10^5 in general form.

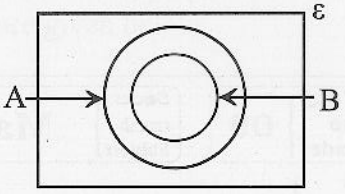
07. The figure shows a regular pentagon



(i) Find the sum of the interior angles of the pentagon .....

(ii) Find the magnitude of an interior angle of it. .....

08. Shade the region $A \cup B$ in the given figure



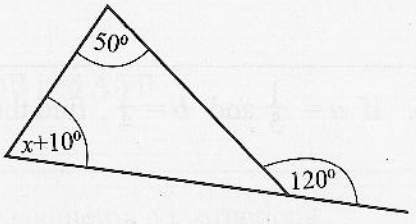
09. Solve the inequality $x + 3 \geq 5$ and represent the integral solutions of it on a number line

10. Simplify

(i) $1101_{two} + 111_{two}$ = ... (ii) $1100_{two} - 101_{two}$ = ...

11. Make n as a subject of the formula $S = \frac{n}{2}(a + l)$

12. Find the value of x.



13. Expand and simplify $(a - 5)(a + 2)$.

14. The area of the triangle shown in the figure is $144cm^2$. Find the value of h.

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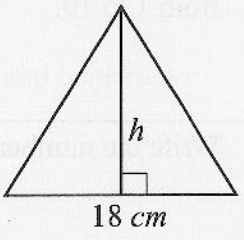
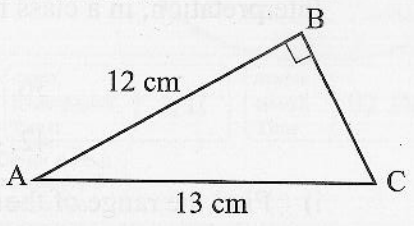


15. Simplify $\frac{2y}{3} - \frac{y}{5}$

16. In the right angled triangle ABC, AB = 12cm and AC = 13cm.
Find the length of side BC.

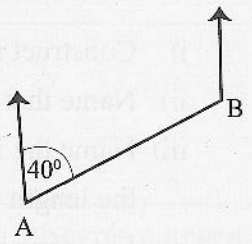


17. Find the equation of the straight line which is parallel to $y = 2x + 3$ and goes through the origin.

18. Find the volume of water needed to fill the cuboid shaped tank of length 5m, breath 3m and height 2m in litres.

19. Find how many American dollars can be received for Rs 10000 on a day when the exchange rate was Rs. 325 for a American dollar to the nearest whole number

20. If the bearing of the position B is seen from position A is 040°, find the bearing of A from B.



Part II

- **Answer first question and any other four questions.**
- **First question carries 16 marks and other questions carry 11 marks each**

01) a) The masses of 20 students measured in the activity done for the lesson Data representation and Interpretation, in a class rounded off to the nearest whole number are given below.

36, 32, 40, 42, 47, 48, 52, 33, 38, 42

42, 43, 44, 55, 53, 45, 44, 42, 38, 39

i) Find the range of the data set

ii) Construct a grouped frequency distribution with 5 class intervals using the above information. Take the class intervals as (31 – 35), (36 – 40), ...

iii) Using the frequency distribution write the modal class and the median class.

iv) What is the size of the class interval of the above frequency distribution.

b) Using the set lesson that you have learned, answer the questions given below

ε = { Whole numbers from 1 to 15 }
A = { Multiples of 2 from 1 to 15 }
B = { Multiples of 3 from 1 to 15 }

i) Write the above 3 sets using its elements.

ii) Represent the above information in a Venn diagram.

iii) Using the Venn diagram, write the elements of the sets $A \cup B$ and $A \cap B$

02) Use only a straight edge and a pair of compasses for the following geometric constructions.

i) Construct an equilateral triangle of side length 6cm.

ii) Name that triangle as ABC and construct the perpendicular bisector of the line AB.

iii) Name the intersection point of perpendicular bisector and AB line as D and measure the length CD.

iv) Find the area of the triangle ABC.

v) Construct the angle bisector of $B\hat{A}C$.

vi) Name the intersection point of the angle bisector and the line CD as O and construct the circle of radius OD.

03) (a) An incomplete table of values prepared to draw the graph of the function $y = 2x - 3$ is given below

x	-2	-1	0	1	2	3
y	-7	-5	-3	---	1	3

i) Find the value of y when $x = 1$.

ii) Using the values in the table, draw the graph on the cartisian plane

iii) Write the gradient and the intercept of that graph

b) The equation of the function is $3x + 2y = 6$. Using it,

i) Find the value of y when $x = 0$

ii) Find the value of x when $y = 0$

iii) Draw the graph of the function $3x + 2y = 6$ on the same cartesian plane used in (a)

04) (a) (i) Solve $\frac{x - 3}{2} + 1 = 4$

(ii) Solve.

$2a - b = 1$

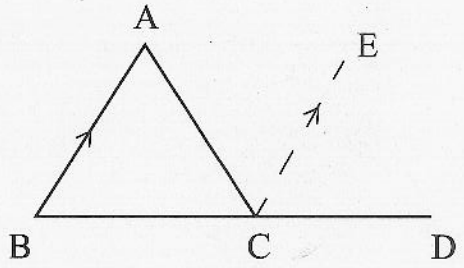
$3a + b = 9$

(b) Find the factors.

(i) $x^2 - 12x + 36$

(ii) $4x^2 - 9$

05) (a) Answer the questions given below using the given diagram.



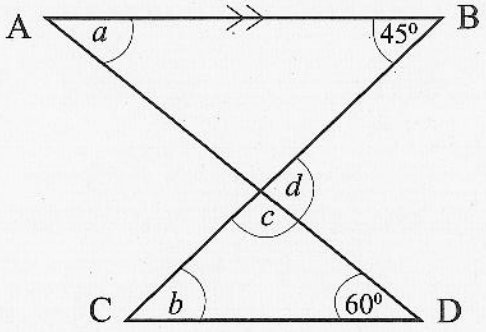
(i) Name an angle equal to $\hat{ABC}$

(ii) Name an angle equal to $\hat{BAC}$

(iii) Show that $\hat{ABC} + \hat{BAC} = \hat{ACD}$

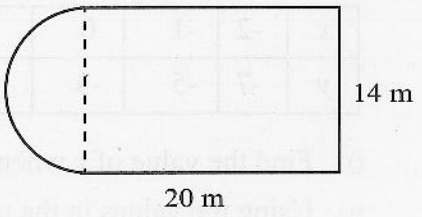
(iv) Write the theorem you used to get the relationship given above (iii)

(b) Find the value of a, b, c, and d based on the information given in the diagram.



2024-02-09 G-09.

06) (a) The figure shows a play ground consisting with rectangular portion and the semi – circular portion.



(i) Find the circumference of semi circular portion.

(ii) Find the perimeter of the play ground.

(iii) Find the area of the semi circular portion.

(iv) Find the total area of the play ground.

(b) The cost need to grow the grass in $1m^2$ is Rs. 900. Find the total cost need to grow the grass in the whole play ground.

07) (a) Binul gave $\frac{4}{9}$ of the money he had to his friend Shehara. After that he used $\frac{2}{5}$ of the remaining amount to buy a book.

(i) Find the fraction of the total amount of money is remained with Binul after giving to Shehara.

(ii) What fraction of the total money does he used to buy the book.

(iii) What fraction of the total money he spend to buy a book and given to Shehara.

(iv) After all these expenses are done Rs. 250 remained with him. Find the total amount he had initially.

(b) Simplify $1\frac{1}{2} \div 2\frac{3}{4} + \frac{2}{5}$