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**Mathematics**

**meh 02**

**Two Hour**

**10 fY%aKsh – m<uq jdr we.hsu - 2023**

***Grade 10 – First Term Examination - 2023***

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புனித பேதுரு கல்லூரி, கொழும்பு 4

***St. Peter's College - Colombo 04***



Name: ………………………………………………. Class: …………… Index No: ………….

**Part I**

01. If 08 people can complete a work in 03 days, how many people are needed to complete the same job in two days?

02. Find factors.

3*x*

2*x*

100

03. Find the value of ***‘x’*** from the given data.

04. If the diameter of a sector is 14 cm, perimeter is 19.5 cm. Find the length of the arc.

05. Simplify. -

*x*

65

40

06. Find the value of ***‘x’*** from the given data.

07. Find the probability of not getting a prime number when one is chosen at random from ten cards. Those numbered from 1 to 10.

08. Solve,

A

B

P

Q

R

*x*

09. Find the value of ***x*** from the given data.

10. What is the value of to the first approximation.

11. Mark whether the following statements are True () or falus ().

i. A triangle cannot be drawn when the sum of the lengths of two small sides of

a triangle is greater than the remaining side.

ii. Whenever 3 angles of a triangle are equal to 3 angles of another triangle, then

the two triangles are congruent.

iii. Two right angle triangles can be congruent only under the case right

angle-hypotenuse side.

12. Simplify.

13. Shade area in the given figure.

B

A

14. A car is travelling at a speed of ***60 km***. Find the distance in meters it has traveled in 8 hours.

15. 8, 2, 9, 16, 20, 6, 7, 11, 9 find the mean of the distribution of numbers.

A

B

C

X

Y

Z

16. What is the actual distance shown in 3 cm, on a map drawn on a scale of 1 : 100000.

17. Write down the remaining element that must be equal for

congruent triangles ***ABC*** and ***XYZ*** under the case ***A.A.S.***

18. Simplify.

19. Find the smallest integer that satisfies the inequality.

A

B

C

20. Mark the point on the side ***BC*** equidistance the lines.

***AB*** and ***AC*** using the knowledge of .

**Part II**

* **Answer 05 questions only.**

01. a). Simplify

b). A person bought a plot of land and cultivated of it with cinnamon and of pepper and the of remaining with vegetables. Finally, fruits were grown in the remaining portion and the area of fruits grown was 15 perches.

i. Find the total area of land.

ii. Find the amount of pepper grown.

iii. If person received Rs. 1200 loan per perch for cultivating cinnamon, find the total amount received by him.

02. In trapezium **ABCD**, **AB = 26 cm** , **CD = 16 cm** and perpendicular distance between line **AB** and **CD** is **10 cm**.

14 cm

D

C

B

A

X

14 cm

45

i. Find the area of trapezium.

ii. Find the area of the sector ***AXD***.

iii. Find the area of shaded part ***BCDX***.

iv. Find the number of beads required

if the beads are pasted in the remaining part

except side ***BC*** at a distance of ***3m***

around the shaded part ***BCDX***.

03. a). A rectangle of length and breadth cm and respectively has been cut out from a rectangle of length and breadth cm and cm respectively as shown in the figure.

A

B

C

D

i. Write a expression for the area of

rectangle ***ABCD*** in terms of ***‘a’***.

ii. Obtain an expression for the area of

the segment remaining after cutting out

the rectangle.

iii. Find the area of remaining part when

b). If  , write the value of  in terms ***‘a’***.

04. ***PQRST*** is a regular pentagon.

i. Draw a regular pentagon and mark the data on it.

ii. Prove that

iii. The perpendicular drawn from ***P*** to the side ***SR*** is ***PX***. Show that ***RX = XS***.

iv. Show that

05. The following pie chart shows information about the Sunday newspapers bought by people living in a certain housing complex. (Only one newspaper is bought by one house).

i. If the number of houses which buy Lankadeepa and

Aruna

120

Divaina

Lankadeepa

Maubima

Divaina newspapers are equal, find the angle

of the sector for each newspaper representation.

ii. Find the percentage of houses that are bought

Maubima newspaper.

iii. If the number of houses bought Divaina newspaper is 15,

find the total number of houses in the housing complex.

iv. Find the number of houses that are bought Aruna newspaper.

v. If 5 houses change the newspaper Aruna to Divaina,

then find the respective angle of the sector to represent

the two newspapers.

06. If took 10 men 6 days to lay concrete on a certain road. If 5 employees are hired after working for 3 days,

i. How many days before the due date can the work be complete.

ii. If a man is paid Rs. 2500/- for one day, find the amount to be paid to the employees to complete the concrete work of the road.