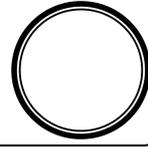




யா/ஹாட்லிக் கல்லூரி,பருத்தித்துறை.
J/ Hartley College, Point Pedro.



முதலாம் தவணைப் பரீட்சை – 2020 – தரம் 10
First Term Examination – 2020 – Grade 10

கணிதம் I, II
Mathematics I, II

32

T

I, II

மூன்று மணித்தியாலம்
Three Hours

கட்டெண்
Index No

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Mathematics

Part – I

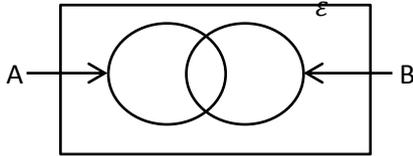
Answer all questions.

01. The amount of energy you get from 200g of food is 1200 calories. What is the amount of energy you get from 30 grams of the same food item?

02. Simplify.

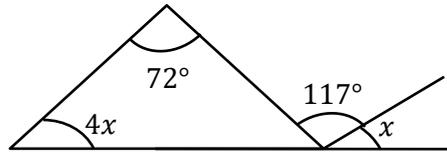
$$0.33 \times 1.4$$

03.



Shade the Region $A \cap B$

04. Find the value of x



05. What is the amount of money divided between A and B at the ratio 4: 7, if B receives 105 rupees?

06. 94cm long wire is bent into a three – quarter circle. Find its' diameter.

07. The numbers 5, 6, x , 10, 15 are in the ascending order. If mean value and median value of above distribution are equal, find the value of x .

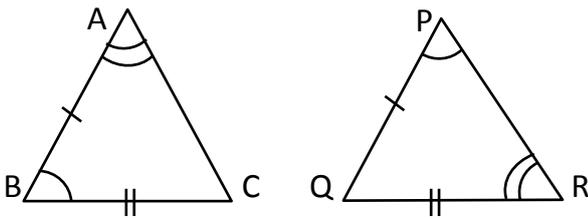
08. Find the value of $\sqrt{35}$.

09. Simplify

$$\frac{2}{5x} + \frac{3}{2x}$$

10. If area of square shaped land is 7744cm^2 , find the perimeter of it.

11.



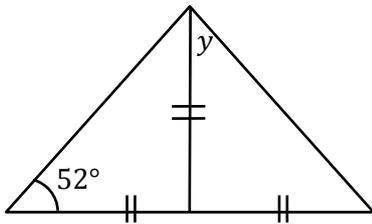
Say that above two triangles are congruent or not, if they congruent, give the condition.

12. Factorize

$$2x^3 - 162x$$

13. Find the general term of the number pattern 3, 8, 13

14.



Find the value of y based on the given information.

15. Find the L.C.M of $4a^2b$, $6ab^3$

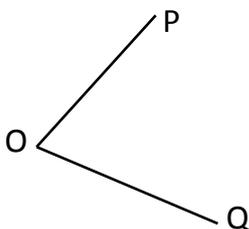
16. 16 men will complete the task in 8 days. Three days after start that work, two men did not come to work. How many days will the others finish the remaining work.

17. Find the gradient and intercept of straight line graph which represented by $3x + y = -5$

18. A man goes from point P to 25m east to point Q. from there go 25m south and reach point R. what is the hearing of Q from P?

19. Make 'F' as the subject of formula $C = \frac{5}{9}(F - 32)$

20.



- (i) Construct the locus of the points which are moving equal distance from OP and OQ
- (ii) What is the special name of the above locus?

Part – II

Answer all questions.

01.

a) Simplify

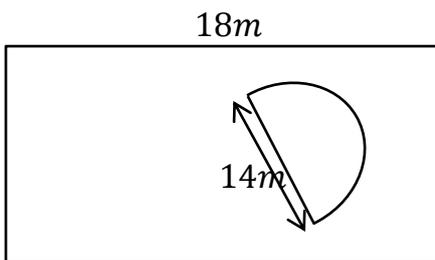
$$\frac{3}{5} \text{ of } \left(1\frac{2}{3} - \frac{3}{4}\right)$$

b) At a schools' festival, $\frac{1}{6}$ of the pupils were singing, $\frac{1}{4}$ of the students dancing and $\frac{6}{7}$ of the remaining students participated in play drama. Each of these students attended only one event.

(i) What fraction of the schools' total students population participated in drama

(ii) If the number of the students who do not attend any of above program is 20, find the total number of students.

02.



The semicircular flowerbed is set in a rectangular land, As seen in the diagram. The rest of the land is covered with grass

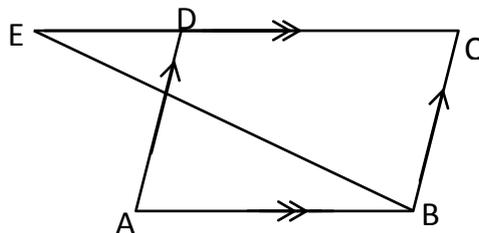
(i) Find the length of the double barbed wire required when placing that wire around the rectangular land.

(ii) Find the area of the semicircular flowerbed.

(iii) Find the area of grass – fed land.

(iv) Cost per $1m^2$ of grass is Rs.60, what is the cost of rearing grass?

03. In the figure ABCD is a parallelogram. Point E located on the extended CD such that BC=BE



Prove that

i) $AD = BE$

ii) $\hat{B}ED = \hat{A}DE$

iii) $\triangle ADE \equiv \triangle BED$

When the lines AE and BD are extended they meet in F.

iv) Show that the triangle ABF is an Isosceles triangle.

04. The cost of production of the item is Rs.15 000. The manufacturer sold it to the wholesaler for a profit of 15%. The wholesaler sells to the retailer for a profit of 10%. The retailer sold the product to the consumer for a profit of 20%.

(i) Find the wholesalers' purchase price.

(ii) Find the retailers' purchase price.

(iii) What is the consumers' purchase price?

(iv) Find the profit made by merchants between the cost of production and the purchase price of the consumer. What percentage of the cost of production will this be?

05.

a) Solve the inequality $5 - x \geq 3 - 2x$ and represent the solutions of x on a number line.

b)

(i) Draw the straight line graph of $\frac{y}{2} + \frac{x}{3} = -2$

(ii) Find its' gradient and intercept.

(iii) If the co-ordinate $(x, -6)$ lie on that straight line, find the value of x .

06. The bank provided the following loans in a given year. $\frac{1}{4}$ was for commercial activities, 35% for home loan, 20% for medical expenses and it also paid for agriculture loan 3 times of education loan.

(i) Represent above data on a pie - chart.

(ii) If agriculture loan is Rs. 750 000, find the total loan.