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Second Term Evaluation - 2025

10

Mathematics I

2 hrs

PART A

Answer all the questions on the paper itself

01. Chose the more closest value of $\sqrt{11}$ and underline it.

(i) 3.1

(ii) 3.2

(iii) 3.3

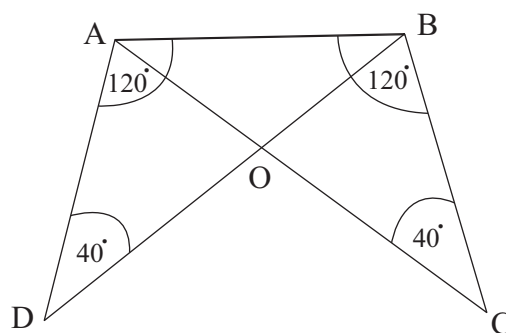
(iv) 3.4

02. Solve, $\frac{5a}{3} - 1 = 4$

03. Write, $6 = 10^{0.7781}$ in logarithmic form

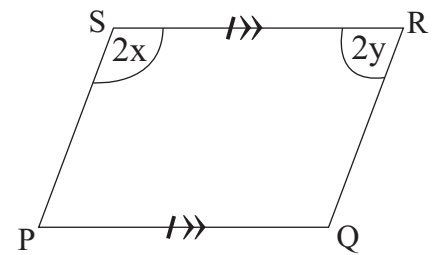
04. Factorize, $2x^2 + x - 15$

05. According to the information given in the figure write a pair of congruent triangles with the case of congruency

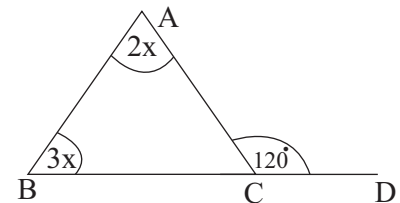


06. 3 of a heap of mangoes are row and remaining mangoes are ripe. If the number of ripe mangoes is 12, Find the total number of mangoes in the heap.

07. Find the value of $x + y$, using the information given in the figure.



08. The side BC is produced to D of the triangle ABC. If $\hat{ACD} = 120^\circ$, Find the value of x ,

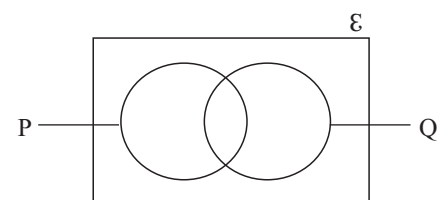


09. The capacity of a tank is 3m^3 . Find the time taken by a pipe to completely fill in the tank with water flowing through it at a rate of 60l per minutes.

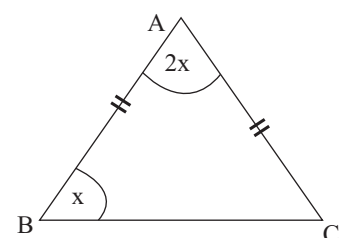
10. Find the arc length of a sector of perimeter 50 cm and radius 14cm

11. Write the equation of the straight line which passes through the point $(0,-1)$ and parallel to the straight line $y = 3x + 4$

12. Shade the region $P' \cap Q'$ in the venn diagram given below.



13. Find the value of x ,

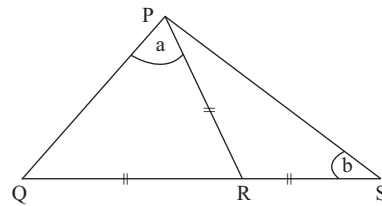


14. A car took 20 minutes to travel a certain distance at the speed of 36kmh^{-1} . Find the time taken to travel same distance at the speed of 72kmh^{-1}

15. The mean mass of 4 students is 32Kg. When another student is joined for this, the new mass is 33Kg. Find the mass of the new student,

16. Simplify, $\frac{x}{x-2} + \frac{2}{2-x}$

17. If $\hat{QPR} = a$ and $\hat{RSP} = b$, Find the value of $a + b$,



18. Find the area of the semicircle of diameter 28cm

19. $A = \{x : x \text{ is a prime number and } 20 < x < 35\}$ Write the set A as a list of elements.

20. $3x - 7y = 5$
 $5x + 3y = 23$

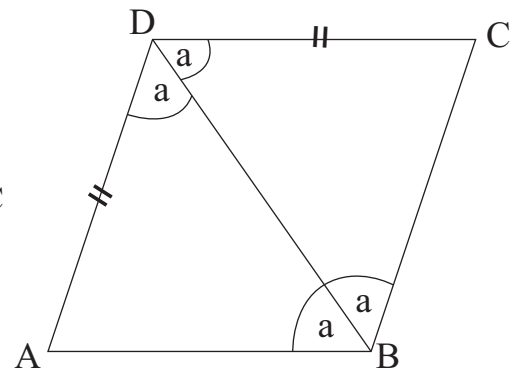
Find the value of $2x - y$ without solving the above simultaneous equations

21. For how many years should an interest of Rs. 12 000 be paid on a loan of Rs. 50 000 taken at an annual simple interest rate of 8%

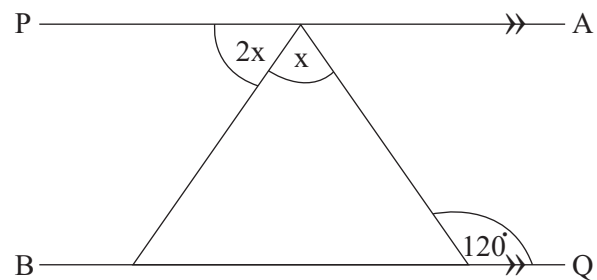
22. Find the LCM of $6x^2y$, $9x$, $2y^2$

23. (i) What is the name of the quadrilateral ABCD given below

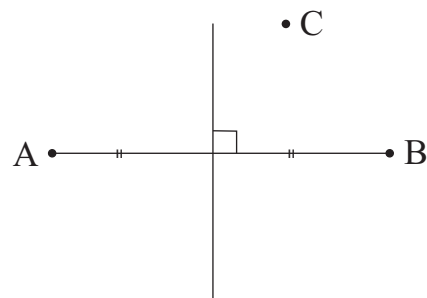
(ii) What is the angle between the two diagonals DB and AC



24. If $AP \parallel BQ$, Find the value of x



25. Mark the location of the lamp 'P' which is equidistant from 3 houses A, B and C using the knowledge of loci



PART B

Answer all the questions on the paper it self.

01. Ahinsa spent $\frac{1}{8}$ of the money she had to buy books and $\frac{3}{5}$ to buy clothes. $\frac{8}{11}$ of the remaining amount, she spent for ornaments then, she had Rs. 600 left

(i). Find the amount spent for buying books and clothes by Ahinsa as a fraction of total amount.

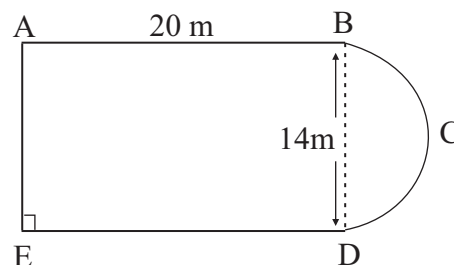
(ii). Find the amount spent for ornament as a fraction from the money she had.

(iii). Find the fraction of amount will she have left after making the above expenses.

(iv). What was the total amount of money that Ahinsa had at the beginning

02. A flower bed is prepared by combining ABDE rectangular shape and a semi circle of diameter 14 cm

(i) Find the length of BCD boundry

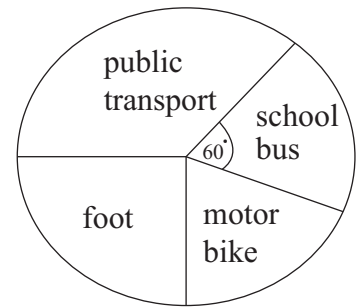


(ii) If the total area of the flower bed 427m^2 , Find the length of the rectangular part.

(iii) Find the perimeter of the flower bed.

(iv) There is a right angled shape pond AEP with the same area as the semicircle. Mark the point P on the diagram with the measurements

03. The pie chart given below shows, how 180 students in a school come to the school.



(i).Find the number of students who come by school bus.

(ii)If the number of students coming by motor bike is 20, Find the angle at the center of the sector relevant to that

(iii)If the number of students coming by public transportation is four times of the students coming on foot, Find the angle at the center of the sector that represents students who use public transportation.

(iv)If 15 students who come from public transportation joined for the group of students coming by school bus, find the new angle at the center of the sector that represents students coming by bus according to the changed information

04. a) The annual assessed value of a house is Rs. 60 000. If Rs. 1 200 is paid as quarterly rates,

(i) Find the value of annual rates

(ii) Find the annual of rates percentage

b) The value of an electric appliance with a 40% customs duty is Rs. 112 000

(i) Find the value of the appliance without the duty

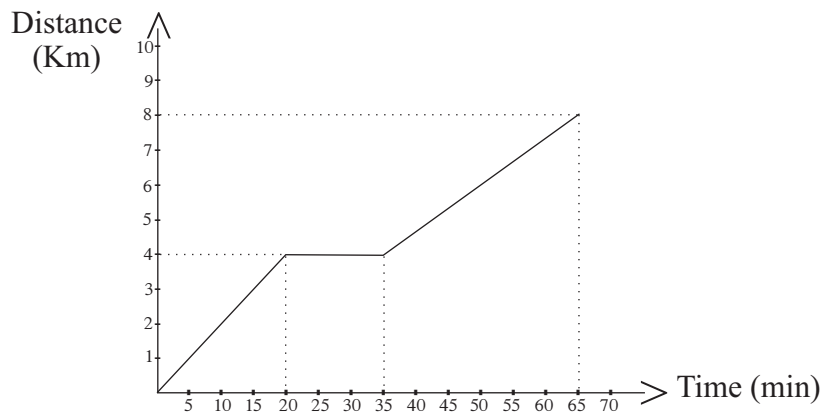
(ii) Find the duty paid

05. a) If 5 men take 12 days to dig a drain. All 5 men engaged with this work in first four days.

(i).Find the magnitude of task done in first four days.

(ii)After four days , if 3 more men joined for this work, find the number of days need to complete the remaining work.

b) The distance time graph given below shows how Mr. Manoj, who was cycling at a constant speed, went to his friend's house, stayed there for 15 minutes and then cycled back to school at a constant speed.



(i).Find the speed at which Mr. Manoj cycled to his friends house in Kmh^{-1}

(ii).Calculate the speed at which Mr. Manoj went school in Kmh^{-1}

(iii)If Mr. Manoj had travelled this same distance and without staying at his friend's house with same speed of above (ii) Draw this new path of journey on the above distance time graph.