



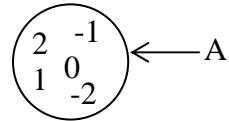
Answer all the questions on this paper itself.

Part I (A)

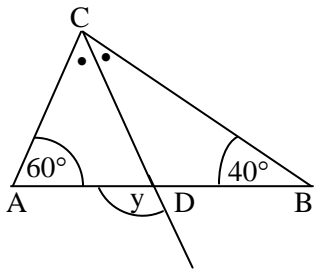
01. Find the whole number of which the square root is 2.8 correct to the first approximation.

02. Simplify $\left(4\frac{1}{2} - 2\frac{1}{2}\right) \times 1\frac{1}{2}$

03. Express the set A in builder method.



04. Angle $\hat{A}CB$ is bisected by DC. Find the magnitude of “y”



05. Solve $\frac{5}{x} - \frac{3}{x} = 8$

06. Place a tick(✓) in front of the correct statement.

(i) Each pair of triangles equal in area is not congruent.

(ii) A pair of right angled triangles, can be proved congruent by the R.H.S case only.

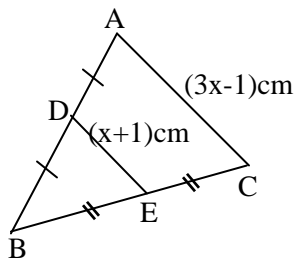
(iii) Each pair of equilateral triangles is congruent.

(iv) Each pair of equi angular triangles is not congruent.

07. In a boy's hostel, food sufficient for 80 boys for 5 days is stored. If 20 more students joined the hostel, for how long will the above amount of food be sufficient?

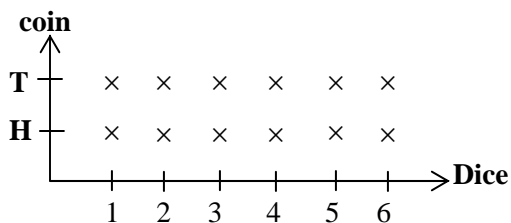
08. Find the least common multiple of the algebraic expressions $4m^2n$, $6mn^2$, $8mn$

09.



Find 'x' according to the data given in the figure.

10.

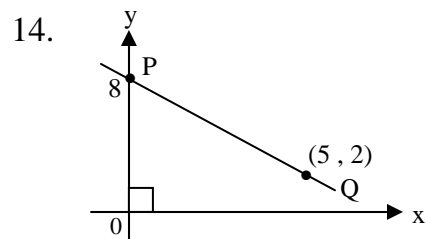
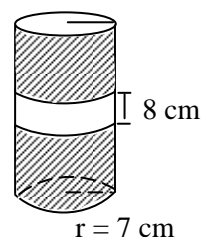


The sample space of tossing a coin and a dice together is shown above. Find the probability of getting tail of the coin with an even number of the dice.

11. Solve $(x + 3)(3x - 2) = 0$

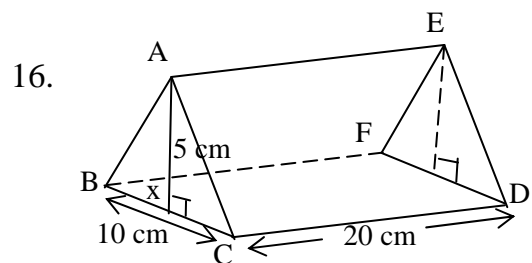
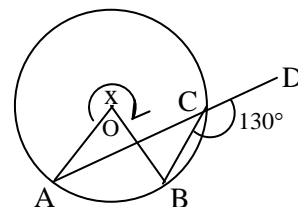
12. Beyond which term, the terms would be minus in an arithmetic progression of 48, 46, 44,

13. Radius of this cylinder is 7 cm and the perpendicular height is 30 cm. It's curved surface is covered with a colour paper except a 8 cm strip as shown in the figure. Find the area of the paper required.
(Curved surface area of a cylinder = $2\pi rh$)



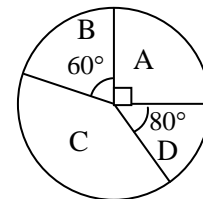
Express the equation of PQ straight line in the form of $y = mx + c$.

15. Find the magnitude of the reflex angle \hat{AOB} with the given facts.
'O' is the center of the center



Find the volume of the prism according to the facts given in the figure.

17. The preferences of a set of students on reading A, B, C and D Newspapers, are shown in this pie chart. If 40 students read the news paper A, find the total number of students in the set.



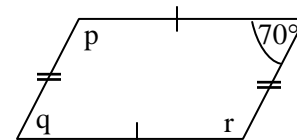
18. (a) When multiplied, it is not compulsory that the orders of two matrices to be equal to multiply.
 (b) To add or subtract two matrices, the relevant orders, should not be equal.
 (c) When a matrix is multiplied by a constant value, its order is changed.
 Select the correct statements,

1. a and b 2. a only 3. b and c 4. a and c

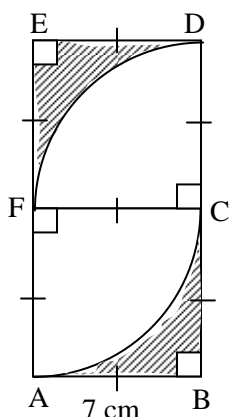
19. Find the factors of $x^2 - 2x - 15$

20. Underline the correct statements according to the facts given in the figure.

- (i) $p + q = 180^\circ$ (ii) $p = q = 90^\circ$
 (iii) $r = 110^\circ$ (iv) $q + r \neq 180^\circ$

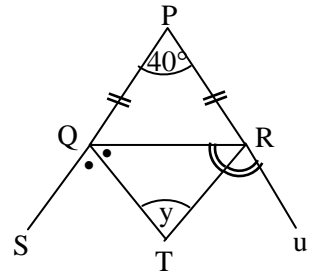


- 21.

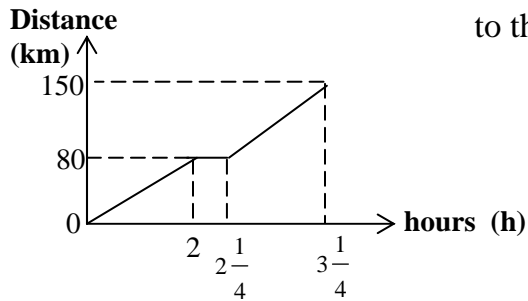


Two squares with 7 cm sides (ABCF and FCDE) are shown in the figure. AC and FD are two arcs with the radius 7 cm. Find the area of the shaded region.

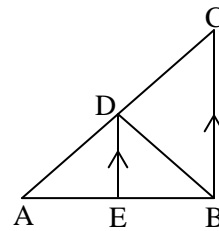
22. In the figure $PQ = PR$ and the angular bisectors of \hat{SQR} and \hat{QRU} meet at T. Find the magnitude of \hat{QTR} .



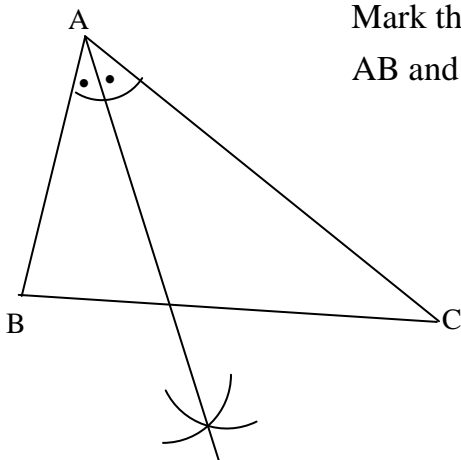
23. Find the average speed of a moving object according to the distance time graph shown below.



24. The angular bisector of \hat{ADB} , meets the side AB at E. Name an isosceles triangle.



25. Mark the position of the point P which is equally away from AB and AC and 3 cm away from BC.



Part B

01. Kamal spent $\frac{1}{3}$ of an amount of money to buy a land and he invested $\frac{1}{5}$ of the remaining amount to buy shares.

- (i) What fraction of the total money was invested to buy shares?

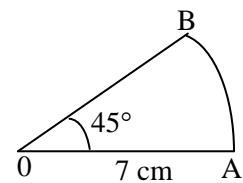
- (ii) Having spent for above expenditures, the remaining amount was deposited in a financial institution. Express the amount deposited as a fraction of the total amount of money.

- (iii) If the amount deposited in is 70,000/=, what was the total amount of money he had?

- (iv) Find the amount of money invested to buy shares.

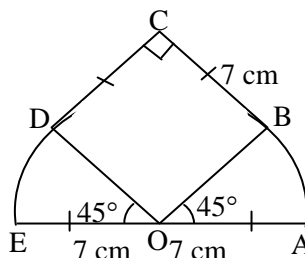
02. A rough drawing of a frame of a sector made by using light metal strips is shown below.

- (i) Find the perimeter of OAB.



- (ii) Find the area of OAB sector.

- (iii) Find the minimum length of metal strips required to make the frame shown below.



- (iv) Find the area of the plain white paper required to cover the above frame of (iii), to draw a colourful art on it.

- (v) The frame mentioned in above (iii) is pasted with colour papers as the sectors are pasted in one colour and the remaining area in another.
You are given two paper strips in Blue and Black which are 42 cm in length and 14 cm in breadth, Find the maximum number of frames that can be pasted with those colour papers.

03. (a) A local government charges Rs. 400/- per a quarter as assessment tax for a building assessed for Rs. 20000/=.

- (i) Find the annual amount of assessment tax that should be paid.
- (ii) Find the percentage of assessment tax charged by the local government.

(b) Income limits and the respective percentages of income tax charged are shown in the following table. Annual income of a trader is 1.8 million rupees.

Income (Rs)	% of tax
1 st 500,000	Free
Next 500,000	4%
Next 500,000	8%
Next 500,000	12%

- (i) Find his taxable income.
- (ii) Find the annual income tax that should be paid by this trader.

04. (a) When National Identity cards are issued to the students of grade 11, only the duly filled applications of those who are qualified to apply, are forwarded to the department of registration of persons.

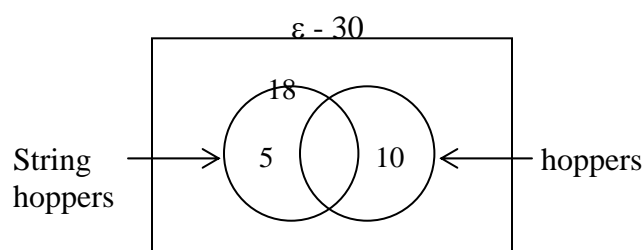
20% of the applications were rejected because those boys could not fulfill the required qualifications. More over 5% of the applications of qualified students were rejected as those applications were not duly filled.

(i) Draw a tree diagram to represent the probabilities of fulfilling or not fulfilling the required qualifications and filling or not filling the applications duly. Mention the relevant probabilities.

(ii) Find the probability of being an applicant who is qualified to apply and who has filled the applications with no mistakes.

(iii) Find the probability of not issuing a national identity card to an applicant.

(b) The information collected on food preferences of a set of people who came for breakfast in a food stall is shown below.



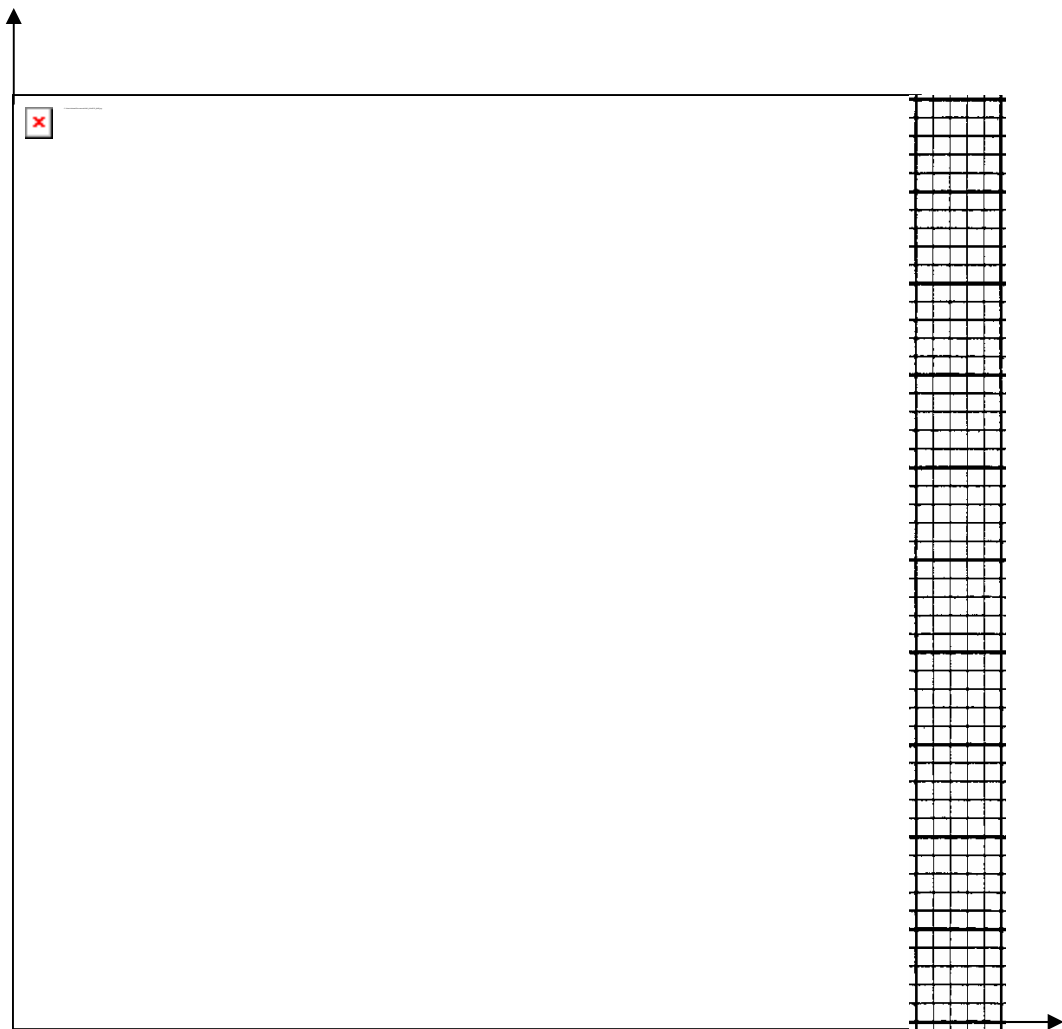
(i) Find the probability of the randomly selected person who prefers neither of the above foods.

(ii) Find the probability of being a person who prefers both food items mentioned above.

05. An uncompleted distribution of marks obtained and the respective distribution of cumulative frequencies of a special test conducted for grade 10 students is shown below.

Marks	Frequency (f)	Cumulative frequency (cf)
10 – 20	3	3
20 – 30	7	10
30 – 40	11	21
40 – 50	14	35
50 – 70	-	47
70 – 100	-	65

- (i) Fill the blanks of above frequency distribution.
(ii) Draw a histogram by using above completed facts.
(iii) Draw the frequency polygen.



- (iv) Find the percentage of the students who obtained above 50 marks.