Grade 06
Unit 08

Maths

Course Outline

- Data handling
- Mensuration

MAT
(Monthly Achievement Tests)

Short Code: 447307

Test ID: NMM06U080

SOUVENIR INFOTECH

Guide Lines

1.Each set consists of:

50 | Warm-up/Foundation Questions

30 | Regular Questions

20 | Thinking Ability Questions

2. The time allocation and instructions regarding the questions are printed clearly in the beginning of each question types. The answers should be written or tick marked as per the instructions given. It is suggested to use pencil initially, so as to enable you to reuse the practice papers.

3. **According to the new pattern of CBSE these practice papers will be very useful especially for syllabus related Quiz, Debates, Visuals related checking and Orals etc.,**

4. After marking the answers, the scores of students can be checked and for marks obtained guidelines are given along with the question solving instructions. Follow those instructions and if, you are fully satisfied with your performance then check for your expected grades as per the CBSE guidelines as given on the back of each set.

5. Remember that this is only a guideline not the finally worked out result. You can further improve your performance by increase your practice.

6. For your convenience please follow following essential examiner's advices:

   a.Answer all the questions
   b.Read all the Options carefully
   c.Understand and use correct scientific language in your responses.

We from SOUVENIR INFOTECH **wish skillful learning for your bright future.**

Before going for the test, look at least :

1. First of all go through the syllabus of the test according to the **Course Outline** provided at the front page of each MAT.
2. After going through the syllabus once or twice or even more time as per your satisfaction, first of all do the Warm-up questions. If you score A+ grade in those 50 questions go to the next level otherwise go through the chapter again.
3. The box for **Specific Information** is very useful as it adds to your concept building. Try to fill specific information in the proper way so that you will get the maximum benefit of it.
4. **Let's Chat** portion will help you to prepare for oral assessment. Through this you can increase your capacity to interact on a particular topic related to your syllabus.
5. The **Extra Diet** portion is also there to enhance you knowledge through visulization of concept. This portion provides you added knowledge on various related concepts.
6. The information related to time factor is there to enhance your time management skills.
7. From the examiners point of view it is always advised to use Pencil for initial efforts. The use of pen is fruitful only when the final effort comes.

Examiner's Tips:

- Read the question carefully. Make sure you understand exactly what is required.
- If you find that you are unable to do a part of a question, do not give up. The next part may be easier and may provide a clue to what you might have done in the part you found difficult.
- Note the number of marks per question as guide to the depth of response needed.
- Underline or note the key words that tell you what is required.
- Underline or note data as you read the question.
- Structure your answer carefully.
- Show all steps in calculations. Include equations you use and show the substitution of data. remember to work according to units given.
- Make sure that your answers contain suitable significant figures (wherever necessary) and must include units in numericals.
- Draw diagrams and graphs carefully.
- Read data from graphs carefully; note scales and prefixes on axes.
- Keep your eye on the clock but don't panic.
- If you have time at the end, use it. Check that your descriptions and explanations make sense. Consider whether there is anything you could add to an explanation or description. Repeat calculations to ensure that you have not made a mistake.

50 Warm-up/Foundation Questions

Opening Window

To enlighten your fundamental/basic topic knowledge.

A+. If you score 45 or above marks, move to the next section confidently.

A. If you score between 40 and 45 marks, it is satisfactory. Bit more knowledge will bring excellent result.

B. If you score below 40, kindly go through the topic more seriously.

Section A (50 marks) **Time given – 50 minutes + 5 minutes for revision**

Questions 1 to 50 carry 1 mark each.

Given one of them is the correct answer make your choice and write its name (a, b, c or d) in the answer box provided.

1. Perimetre of a equilateral triangle of length 3 cm

(a) 6 cm (b) 9 cm

(c) 12 cm (d) 15 cm

T – 1 min
S – Mensuration

Ans.

2. Perimetre of a regular hexagon with each side 4 cm

(a) 20 cm (b) 16 cm

(c) 24 cm (d) 30 cm

T – 1 min
S – Mensuration

Ans.

3. length × breadth =

(a) Area of a rectangle (b) Area of a rhombus

(c) Area of a square (d) Area of a circle

T – 1 min
S – Mensuration

Ans.

4. Area of a square of side 9 cm

(a) 36 cm^2 (b) 81 cm^2

(c) 18 cm^2 (d) none of these

T – 1 min
S – Mensuration

Ans.

5. A can was $\frac{1}{6}$ filled with oil at first.

Then, another 270 ml of oil was added to the can and its became $\frac{11}{12}$ filled.

Find the total volume of oil in the can.

(a) 90 ml (b) 270 ml

(c) 330 ml (d) 540 ml

T – 1 min
S – Mensuration

Ans.

6. The table below shows the monthly wages of the workers in Rs.

Amount of money	1000	2500	2800	3000
Number of workers	5	4	7	6

_____ workers get atleast Rs. 2000 as monthly wages

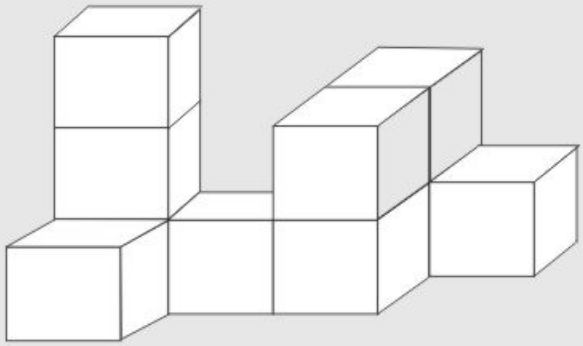
T – 1 min
S – Data handling

(a) 10 (b) 13
(c) 15 (d) 17

Ans.

7. The solid below is made up of 3-cm cubes.
What is the volume of the solid?

T – 1 min
S – Mensuration



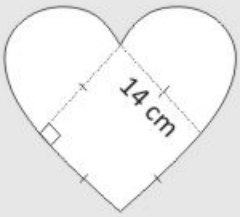
(a) 27 cm^3 (b) 30 cm^3
(c) 216 cm^3 (d) 270 cm^3

Ans.

8. Perimeter of the square = _____ cm (Take $\pi = \frac{22}{7}$)

T – 1 min
S – Mensuration

(a) 56
(b) 72
(c) 100
(d) 116



Ans.

9. The table below shows the daily pocket money of the pupils in a class.

Amount of money	0	Less than Rs. 1	Rs. 1 – Rs. 1.90	Rs. 2 or more
Number of pupils	6	10	18	4

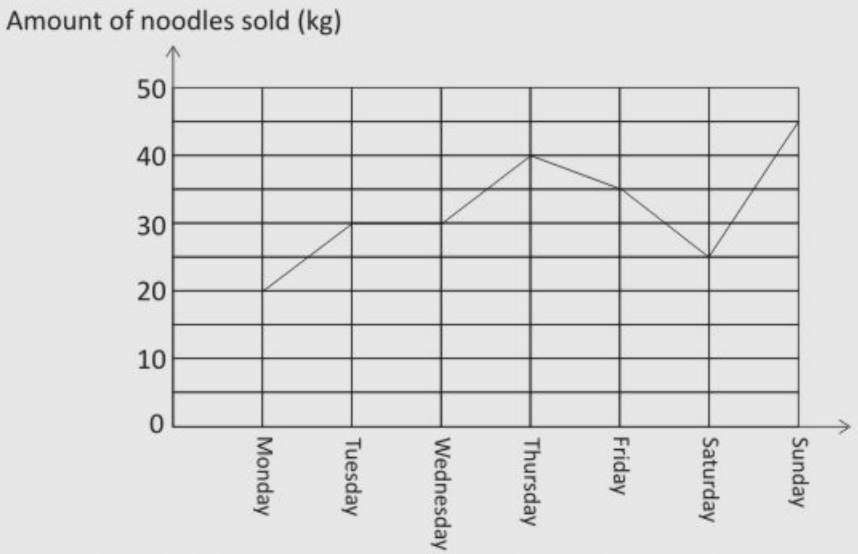
_____ pupils have at least Re. 1.00 daily pocket money.

T – 1 min
S – Data handling

(a) 10 (b) 18
(c) 22 (d) 28

Ans.

10. The graph below shows the amount of noodles sold by a hawker in a week.



On which day did he sell 50% of the amount of noodles he had sold on Thursday?

(a) Monday (b) Tuesday

(c) Friday (d) Saturday

T – 1 min
S – Data handling

Ans.

11. The table below shows the parking charges at a car park.

Parking Rates	
1st hour	Rs 1.00
Additional $\frac{1}{2}$ hour or part thereof	Rs 0.60

Mr Gopal left the car park at 4.10 pm and paid Rs 5.80 for parking his van at the car park.

At what time was he most likely to have parked his van at the car park?

(a) 11 am (b) 12 noon

(c) 10.30 am (d) 12.30 pm

T – 1 min
S – Data handling

Ans.

12. Tally mark five in given as

(a) IIIII (b) 𝍸

(c) 𝍸 (d) 5

T – 1 min
S – Data handling

Ans.

13. Area of a rectangle of sides 4 cm and 5 cm
(a) $25cm^2$ (b) $20cm^2$
(c) $10cm^2$ (d) none of these

T – 1 min
S – Mensuration
Ans.

14. Perimetre of a triangle with sides 3 cm, 4 cm and 5 cm
(a) 16 cm (b) 13 cm
(c) 12 cm (d) none of these

T – 1 min
S – Mensuration
Ans.

15. Perimetre of a square of 96 cm fin its side
(a) 48 cm (b) 52 cm
(c) 24 cm (d) 14 cm

T – 1 min
S – Mensuration
Ans.

True or False

16. Data is a collection of numbers gathered to give some information.

T – 1 min
S – Data handling
Ans.

17. We use pictures in pictograph.

T – 1 min
S – Data handling
Ans.

18. Bar graph is better than pictograph.

T – 1 min
S – Data handling
Ans.

19. We use pictures in bar graph.

T – 1 min
S – Data handling
Ans.

20. 1, 11, 111 are called tally marks.

T – 1 min
S – Data handling
Ans.

21. Area of a rectangle is length × breadth.

T – 1 min
S – Mensuration
Ans.

22. Unit of perimeter is cm^2.

T – 1 min
S – Mensuration

Ans.

23. The amount of surface enclosed by a closed figure is called its area.

T – 1 min
S – Mensuration

Ans.

24. Area of a rectangle = side × side.

T – 1 min
S – Mensuration

Ans.

25. Area of a square = side × side.

T – 1 min
S – Mensuration

Ans.

Match the following columns:

T – 5 min
S – Mensuration

Column A	***Column B***
26. Perimetre of a square	(i) 2(l+b)
27. Perimetre of a rectangle	(ii) 4 × sides
28. Area of a rectangle	(iii) 5 × sides
29. Area of a square	(iv) length × breadth
30. Perimetre of equal sides pentagon	(v) side × side

Ans.

31. The perimetre of a regular octagon is 28 cm. How long is its one side?

T – 1 min
S – Mensuration

Ans.

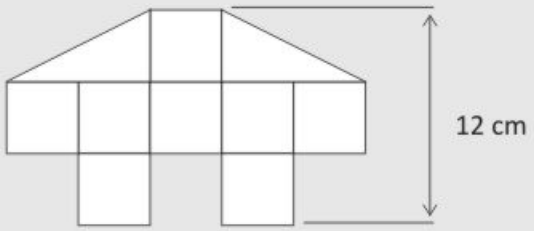
32. Find the area in square metre of a piece of cloth 2 m 25 cm wide and 3 m long..

T	– 1 min
S	– Mensuration

Ans.

33. The figure below is made up of 8 identical squares and 2 identical triangles. What is the area of the figure?

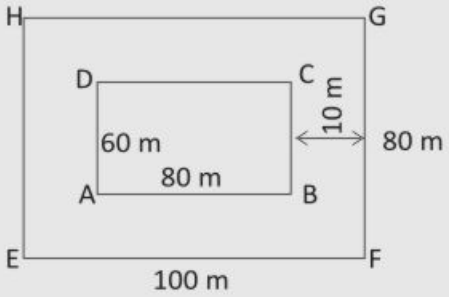
T	– 1 min
S	– Mensuration

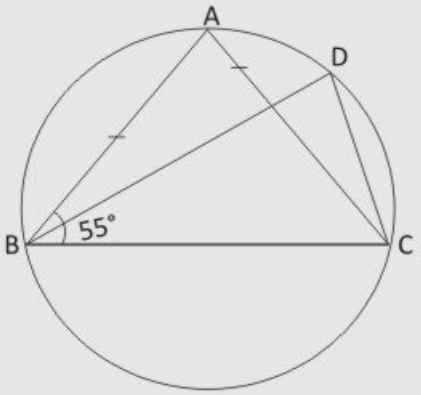


Ans.

34. (a) A lawn is 100 m long and 80 m broad. A path 10 cm wide is to build outside all around it along its border. Find the area of the path.

T	– 1 min
S	– Mensuration





Ans.

35. The area of a rectangular region is 49 cm^2 and its breadth is 28 mm. Find the length of the rectangle?

T	– 1 min
S	– Mensuration

Ans.

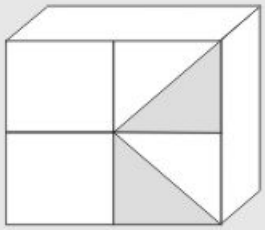
36. The side of a square is 70 cm. Find its area and perimeter?

T	– 1 min
S	– Mensuration

Ans.

37. The solid below is a cube.
The total area of the shaded parts is 16 cm^2.
What is the surface area of the cube?

T – 1 min
S – Mensuration



Ans.

38. The area of a rectangular region is 49 cm^2 and its breadth is 28 mm. Find the length of the rectangle?

T – 1 min
S – Mensuration

Ans.

39. The side of a square is 70 cm. Find its area and perimeter.

T – 1 min
S – Mensuration

Ans.

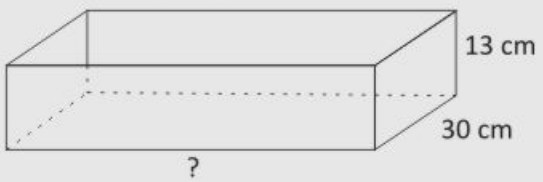
40. A bullock-cart covers a distance of 18 km in four hours and a half. What is the average speed of the cart?

T – 1 min
S – Mensuration

Ans.

41. Breadth of the tank = _____ cm. (1 l = 1000 cm^3)

Capacity of tank = 46.8 L



T – 1 min
S – Mensuration

Ans.

42. Volume of cube is _____ .

T – 1 min
S – Mensuration

Ans.

43. Volume of cuboid = Length × Breadth × _____ .

T – 1 min
S – Mensuration

Ans.

44. A _____ represents data through pictures of objects.

T – 1 min
S – Mensuration

Ans.

45. Perimeter of square is _____ .

T – 1 min
S – Mensuration

Ans.

46. Volume of the cube is _____ .

T – 1 min
S – Mensuration

Ans.

47. Perimeter of a rectangle is _____.

T – 1 min
S – Mensuration

Ans.

48. Area of a circle is _____.

T – 1 min
S – Mensuration

Ans.

49. Speed $= \frac{\text{}}{\text{Time}}$

T – 1 min
S – Mensuration

Ans.

50. The sum of the angle of a triangle _____ .

T – 1 min
S – Mensuration

Ans.

30 Regular Questions

Opening Window

To enlighten your regular knowledge of topic. If you score more than 55 marks here, you have achieved this level brilliantly. Move to the next level of test papers.

Section B (60 marks) **Time given – 45 minutes + 5 minutes for revision**

Questions 51 to 80 carry 2 marks each.

51. Find the length of a wooden plank of width 2.5 m, thickness 0.025 m and volume 0.25 m^3

T – 1 min
S – Mensuration

Ans.

52. The volume of cuboidal block is 1680 cm^2. Find its height if it is 15 cm long and 7 cm wide.

T – 1 min
S – Mensuration

Ans.

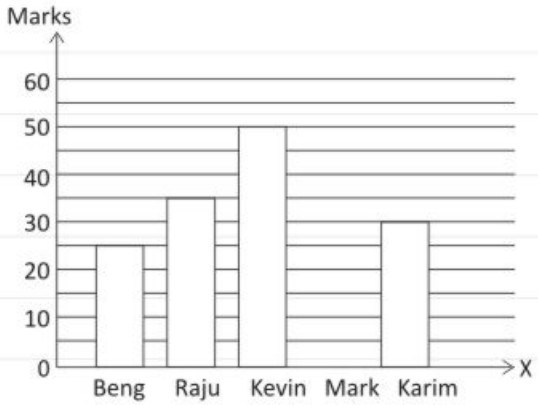
53. Find the volume of a cube whose side is 5 cm.

T – 1 min
S – Mensuration

Ans.

For Questions 54 and 55, refer to the graph below.

It shows the scores of 5 pupils for a Mathematics test.



54. If the average score of the 5 pupils is 34 marks, what will be Mark's score?

T – 1 min
S – Data handling

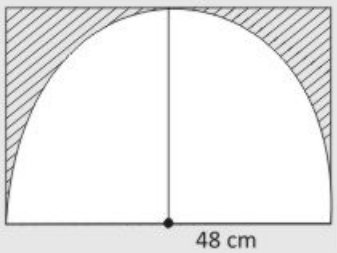
Ans.

55. If Kevin's score: Mark's score is 2 : 0.08, what will be Mark's score?

T – 1 min
S – Data handling

Ans.

56. The figure is made up of a square and a rectangle. Find the area of the shaded part? $\pi = \frac{22}{7}$



T – 1 min
S – Mensuration

Ans.

57. A number M is smaller than 100. M is a multiple of 4 as well as multiple of 8. What is greatest possible number of M?

T	– 1 min
S	– Mensuration

Ans.

58. A rectangular tank measuring 24 cm by 15 cm by 12 cm is $\frac{1}{3}$ filled with a liquid. A metal block of volume 720 cm^3 is put into the liquid. What is the new height of the liquid in the tank?

T	– 1 min
S	– Mensuration

Ans.

59. The table below shows the time taken by 5 competitors to swim a lap in a swimming race. Who came in fourth in the race?

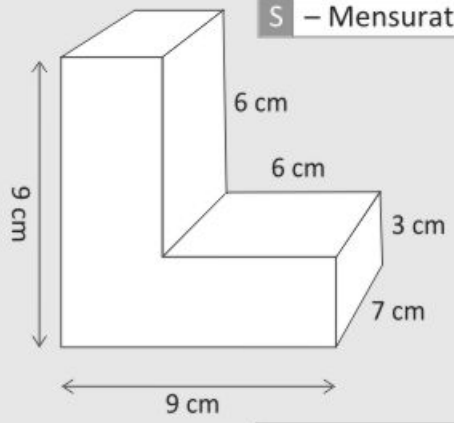
T	– 1 min
S	– Data handling

Competitor	Time taken
Ahmad	2 min 24 sec
Binzhong	$2\frac{1}{5}$ min
Charlie	2.5 min
Devav	2 min 4 sec
Enlai	$2\frac{1}{6}$ min

Ans.

60. The solid below is formed from 2 cuboids. Find the volume of the solid.

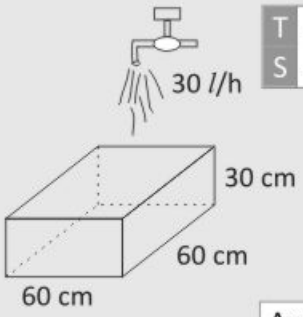
T – 1 min
S – Mensuration



Ans.

61. How long does it take a tap with water flowing at a rate of 30 l/hr to fill a rectangular tank measuring 60 cm by 60 cm 30 cm completely?

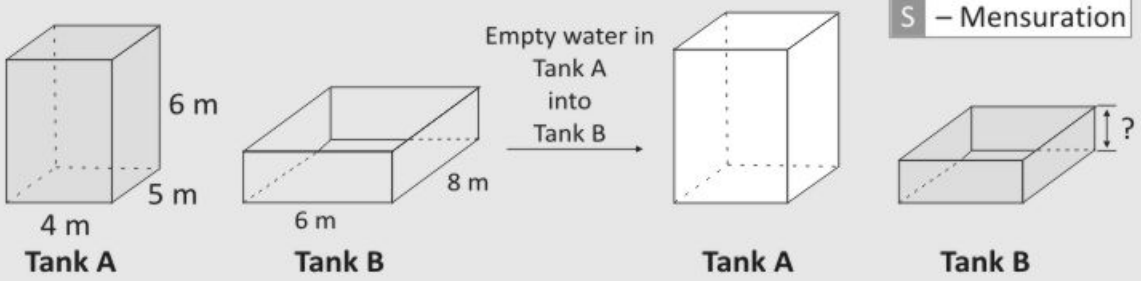
T – 1 min
S – Mensuration



Ans.

62. Tank *A* is completely filled with water. The water in it can also fill Tank *B* completely. What is the height of Tank *B*?

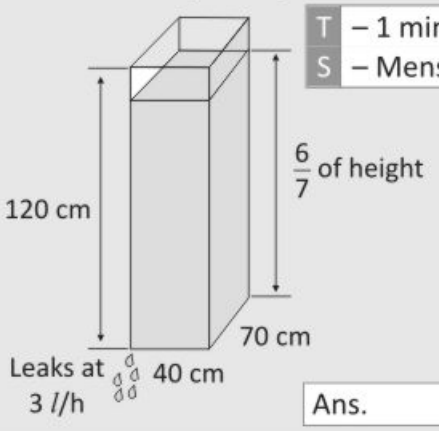
T – 1 min
S – Mensuration



Ans.

63. A rectangular tank has a tiny crack that leaks water at a rate of 3 l/h. How long will it take the water in the tank to leak out completely? Give the answer in hours. (1 *l* = 1000 cm3)

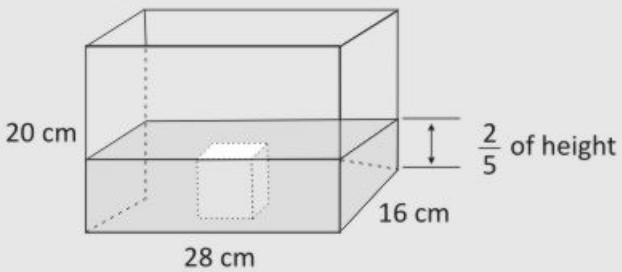
T	– 1 min
S	– Mensuration



Ans.

64. The top surface of an iron cube is at the same level as the water in a rectangular tank. What is the volume of water needed to fill the tank?

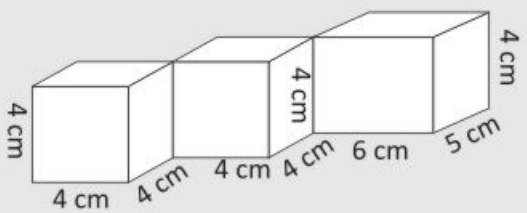
T	– 1 min
S	– Mensuration



Ans.

65. The solid below is formed from 2 cubes and 1 cuboids. Find volume?

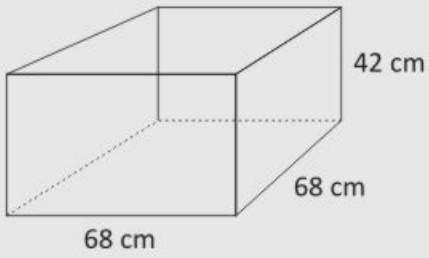
T	– 1 min
S	– Mensuration



Ans.

66. A rectangular tank is measuring 68 cm by 68 cm 42 cm. Find the capacity of a rectangular tank.

T	– 2 min
S	– Mensuration



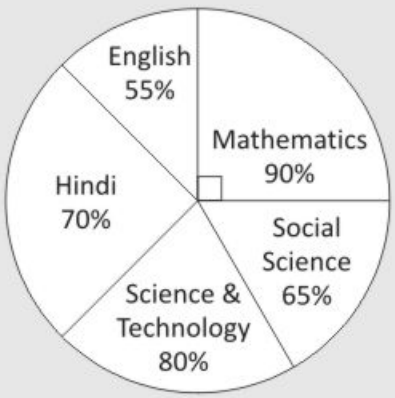
Ans.

67. The given pie chart gives the marks scored in an examination by a student in English, Hindi, Science and Technology, Social Science and Mathematics. If the total marks obtained by the students were 540. Answer the following.

(a) In which subject did the students score maximum marks.

(b) How many more marks were obtained by the students in Mathematics than in Hindi?

(c) In which subject did the students score minimum marks?



T	– 2 min
S	– Mensuration

Ans.

68. The picture graph shows the number of books read by 4 boys in 6 months. What is the average number of books read by each boy in the 6 months?

T – 2 min
S – Data handling

Azman	📖📖📖📖📖📖📖
Brian	📖📖📖📖
Weiqi	📖📖📖📖📖
Punesh	📖📖📖📖
Each 📖 represents 6 books.	

Ans.

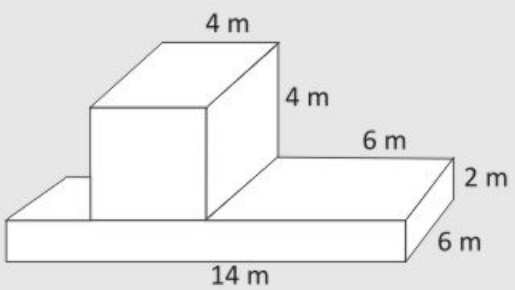
69. Jim completed a task in 4 hr.
Mat took twice as long to complete the same task.
Working at their individual rates, how much time could be needed for them to work together to complete the task?

T – 2 min
S – Mensuration

Ans.

70. Find the volume of the solid.

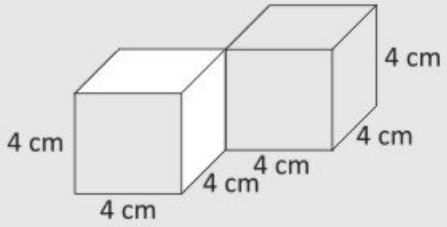
T – 2 min
S – Mensuration



Ans.

71. Find the volume of the solid.

T	– 2 min
S	– Mensuration



Ans.

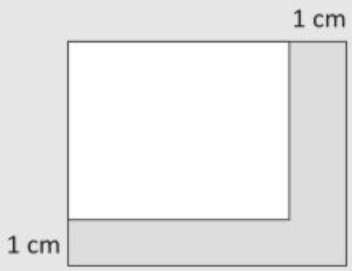
72. The two circles having the different diameters 32 cm, 24 cm. Find the area of each circle and determine the difference in areas? (Take $\pi = \frac{22}{7}$)

T	– 2 min
S	– Mensuration

Ans.

73. In the square below, the shaded parts have total area of 31 cm^2. What is the perimeter of the shaded part?

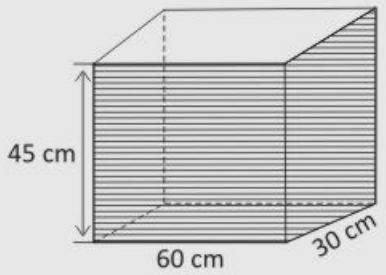
T	– 2 min
S	– Mensuration



Ans.

74. The diagram below shows a rectangular containing full of water tank. Find the volume of the rectangular.

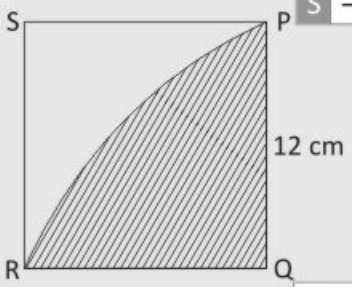
T – 2 min
S – Mensuration



Ans.

75. In the diagram below, *PQRS* is a square of side 12 cm. The square contains a quadrant with *Q* as the centre of the circle that form a quadrant. What is the area of a shaded parts : (Take $\pi = 22 / 7$)

T – 2 min
S – Mensuration



Ans.

76. A rectangular tank was completely filled with water. When Joe placed a metal ball into it, half of the water was displaced. The tank measured 24 cm by 20 cm by 12 cm. Find the volume of the metal ball.

T – 2 min
S – Mensuration

Ans.

77. A rectangular carpet has an area of 120 m^2 and a perimeter of 46 m. Find the length of its diagonals.

T	– 2 min
S	– Mensuration

Ans.

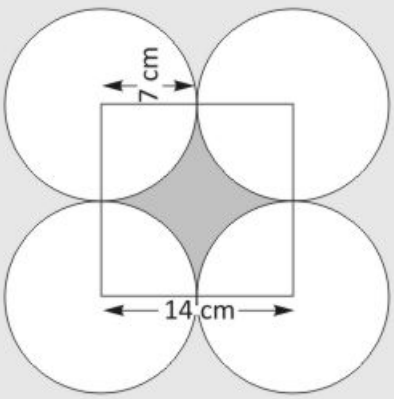
78. The length and breadth of a rectangle are increased by 30% and 20% respectively. Find by what percentage the area of the rectangle, so formed, exceeds the area of the previous rectangle.

T	– 2 min
S	– Mensuration

Ans.

79. The area of the shaded region is

T	– 2 min
S	– Mensuration



Ans.

80. The table below shows the marks of 5 pupils. If the average marks of 5 pupils is 63. What fraction of Pooja's mark is Sanjay's mark?

Name of Pupil	Pankaj	Amit	Pooja	Diwakar	Sanjay
Marks (%)	70	?	55	57	73

T – 2 min
S – Data handling

Ans.

20 Thinking Ability Questions

Opening Window

To enlighten your regular knowledge of topic. If you score more than 50 marks here, you have achieved this level brilliantly. Move to the next level of test papers.

Section C (60 marks) **Time given – 45 minutes + 5 minutes for revision**

81. A rectangular container measuring 10 m by 6 m by 8 m is filled with water to 2/5 of its height.

(a) Find the capacity of the container.

(b) How much more water is needed to fill up the container completely?

T	– 2 min
S	– Mensuration

Ans.

82. The faces of Tank A were identical squares. Tank A was filled to its brim with water. The water was then emptied into Tank B which measured 20 cm by 27 cm by 18 cm.

The water took up 60% of the capacity of Tank B.

T	– 2 min
S	– Mensuration

(a) How much water was there? Give the answer in litres.

(b) Find the length, in centimeters, of a side of Tank A.

Ans.

83. A rectangular container of height 60 cm is completely filled with water. The ratio of the length to the breadth to the height of the container is 16 : 5 : 12. The container has a crack at its base which leaks water at a rate of 0.5 l/h. After how many hours will the container be completely emptied? (1 l = 1000 cm^3)

T	– 2 min
S	– Mensuration

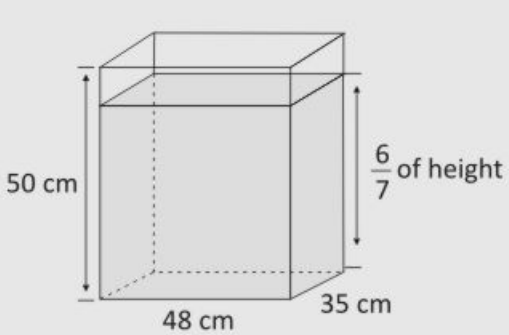
Ans.

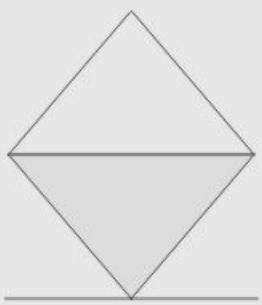
84. A rectangular container measured 300 cm by 180 cm by 160 cm. Water was pumped into the container at a rate of 0.5 l/min and simultaneously pumped out inlet pump automatically switched off when the container was completely filled. After how many hours would the container be completely filled? (1 m^3 = 1000000 cm^3)

T	– 2 min
S	– Mensuration

Ans.

85. A rectangular container measured 48 cm × 35 cm × 50 cm. It was filled with water up to $\frac{6}{7}$ of its height. The container was then tilted as shown in the diagram.





(a) How much water overflowed when the container was tilted? Give the answer in litres..

(b) What fraction of the water is overflowed?

T	– 2 min
S	– Mensuration

Ans.

86. A rectangular container measuring 21 cm by 16 cm by 8 cm was completely filled with water. A rock and a metal ball were carefully lowered into the water so that they were completely submerged. 10% of the water in the container overflowed.

(a) Find the total volume of the rock and the metal ball.

(b) If the rock was replaced with another metal ball identical to the one placed in the container, only 1% of the water would have overflowed. What was the volume of the rock?

T	– 2 min
S	– Mensuration

Ans.

87. The table below shows the time taken by 5 pupils to complete a 1.6-km run.

Name of pupil	Alwi	Kabir	Boon	Saljit	Dan
Time taken (min)	11	?	10	9	12

The average time taken by each pupil is 10 min.
What fraction of Dan's time is Kabir's time?

T – 2 min
S – Data handling

Ans.

88. What will happen to volume of a cube, if its each edge is:
(a) doubled (b) halved (c) tripled

T – 2 min
S – Mensuration

Ans.

89. A godown measures 40 m × 25 m × 15 m. Find the maximum number of wooden crates each measuring 1.5 m × 1.25 m × 0.5 m that can be stored in the godown.

T – 2 min
S – Mensuration

Ans.

90. A tank holds 480 cm^3 of water. If it is 8 cm wide and 6 cm high then. What is its length?

T	– 2 min
S	– Mensuration

Ans.

91. A survey was carried out on 300 students of class V in a school. Data about the different modes of transport used by them to travel to school was displayed as a pictograph.

(a) How many student are using private car as their mode of transport?

(b) How many students are using cycle as a mode of transport?

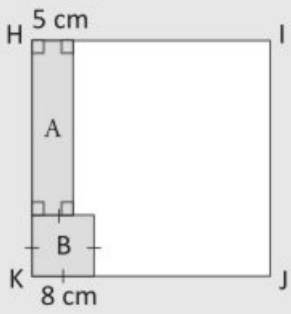
Modes of traveling	Number of Students ☺ = 10 students
Private Cars	☺ ☺ ☺ ☺ ☺ ☺ ☺
School Bus	☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺
Cycle	☺ ☺ ☺ ☺ ☺
Walking	☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺

T	– 2 min
S	– Data handing

Ans.

92. Ailing had a piece of square cardboard with an area of 625 cm^2. She cut out some of the cardboard. The shaded part in the diagram below shows the area of the cardboard she had cut out. Find the area of the cardboard she had left.

T	– 2 min
S	– Data handing



Ans.

93. The length of a rectangle is 6 m more than the breadth. If the perimeter of the rectangle is 80 cm. Find the length and breadth of the rectangle?

T – 2 min
S – Mensuration

Ans.

94. The number of students in each class of a convent school is depicted by the pictograph?

Classes	Number of Student (= 10 Student)
I	
II	
III	
IV	
V	

T – 2 min
S – Data handing

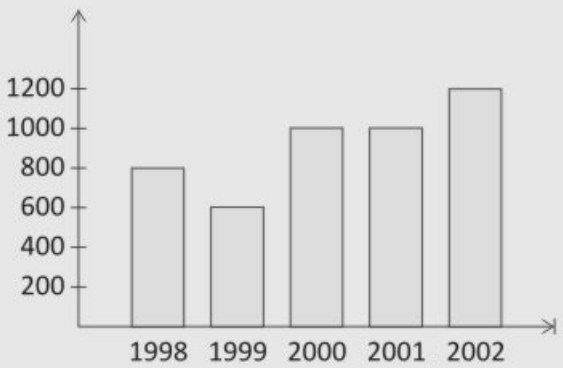
Ans.

95. The following bar graph shows the number of bicycles manufactured in a factory during the years 1998 to 2002.

(a) In which year were the maximum number of bicycles manufactured

(b) In which year were the minimum number of bicycles manufactured.

T – 2 min
S – Data handing



Ans.

96. Number of persons in various age groups in a town is given in the following table.

Age Group	1-14	15-29	30-44	45-59	60-74	75 & above
No. of Persons	2 lakh	1 lakh 45 thousand	1 lakh 50 thousand	1 lakh 50 thousand	80 thousand	40 thousand

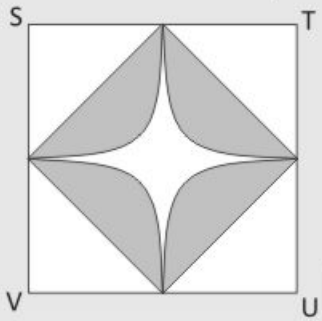
(a) Which two age groups have same population?

(b) All persons in the age group of 60 and above are called senior citizens. Howe many senior citizens are there in the town?

T – 3 min
S – Data handing

Ans.

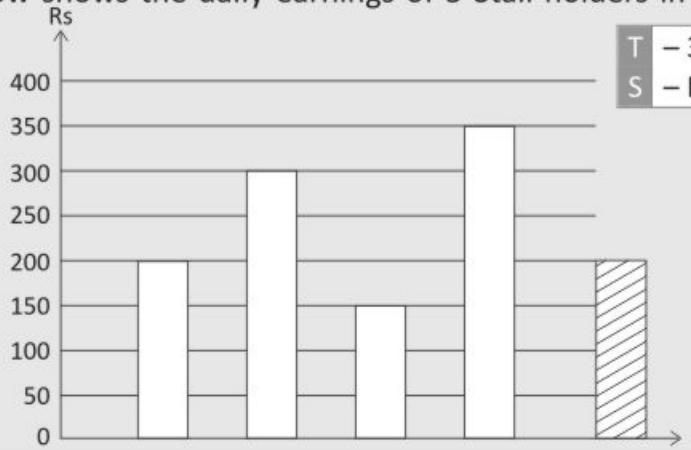
97. In the figure below, *STUV* is a square of sides 60 cm. *S*,*T*,*U* and *V* are the centres of the 4 quadrants at the 4 corners of the square. The radius of each quadrant is 30 cm. Find the total area of the shaded parts.
(Take $\pi = 3.14$)



T – 3 min
S – Mensuration

Ans.

98. The graph below shows the daily earnings of 5 Stall holders in a canteen.



T – 3 min
S – Data handing

(a) What is the ratio of Stall holder A's earnings to the sum of earnings of Stall holder C and Stall holder D?

(b) The earnings of Stall holder E is 20% of the total earnings of all the Stall holders. Find Stall holder E's earnings and use it to complete the bar graph.

(c) How many percent more was Stall holder D's earnings than Stall holder E's earnings?

Ans.

99. To cover the floor of a room 4 m wide and 5m long by squared tiles. If each square tile is of side 0.5 m then find the number of tiles required to cover the floor of the room.

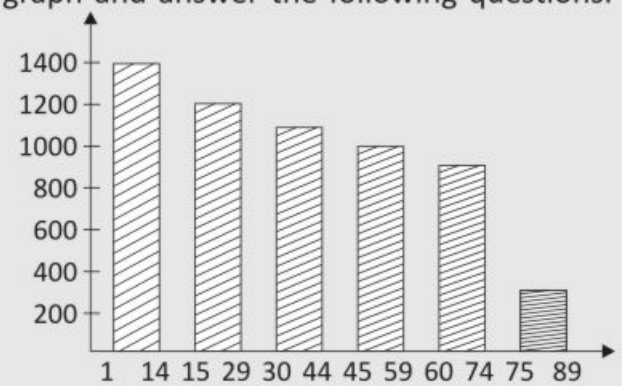
T – 3 min
S – Mensuration

Ans.

100. The bar graph given in figure represents the age group and corresponding number of persons. Study the bar graph and answer the following questions.

(a) What is the percentage of the youngest age group persons over those in the oldest age group?

(b) Find out the population of the town in all these age groups.



T – 3 min
S – Data handing

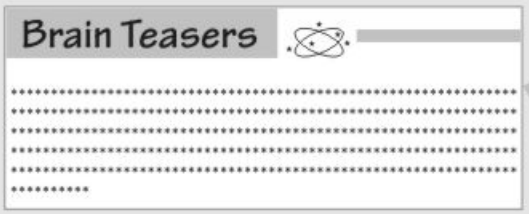
Ans.

Tools at a glance

Opening Window with instructions for your potential analysis and guideline to improve your performance.

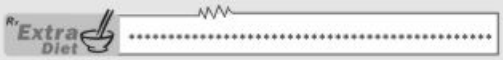
Let's Chat, the feature with suggestive topics for discussion so as to improve your capacity to debate on various topics.

Box with time break-up of questions **(T)** and its concept (**S**, i.e., subject)



Brain Teasers i.e., Questions with difference to make the concepts of students crystal clear. These are the questions with higher difficulty levels to check the grip of the students over the concepts.

Extra Diet, the web link, the notation: www._____ to provide additional information regarding the concept for more clarity of thoughts.



CBSE GRADING PATTERN

As the new pattern includes **CCE** (Continuous and Comprehensive Evaluation) which will be run in two terms i.e., from April to September and October to March. Thus the school will conduct four **Formative** and two **Summative** Assessments.

However, the most generalised version of grades is given below:

MARKS PERCENTAGE	GRADE	GRADE POINT	CATEGORY
91 to 100	A1	10	Exceptional
81 to 90	A2	9	Excellent
71 to 80	B1	8	Very Good
61 to 70	B2	7	Good
51 to 60	C1	6	Ordinary
41 to 50	C2	5	Average
33 to 40	D	4	Below Average
21 to 32	E1	3	Improvement Needed
Below 20	E2	Below 2	Unsatisfactory