Grade 06
Unit 09

Maths

Course Outline

- Fractions
- Decimals
- Data handling
- Mensuration

MAT

(Monthly Achievement Tests)

Short Code: 447307

Test ID: NMM06U090

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.

For each question four options are 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. The simplest form of $\frac{69}{92}$ is

T – 1 min
S – Fractions

(a) $\frac{2}{3}$ (b) $\frac{3}{4}$

(c) $\frac{13}{24}$ (d) none of these

Ans.

2. Simple form of $\frac{39}{150}$

T – 1 min
S – Fractions

(a) $\frac{13}{150}$ (b) $\frac{13}{50}$

(c) $\frac{39}{150}$ (d) none of these

Ans.

3. $20+3+\frac{5}{10}$ is equal to

T – 1 min
S – Fractions

(a) 2.35 (b) 2.8

(c) 23.5 (d) none of these

Ans.

4. 50 rupees 90 paise can be written as

T – 1 min
S – Fractions

(a) 50.09 (b) 5.90

(c) 50.90 (d) none of these

Ans.

5. Perimeter of a rectangle is

T – 1 min
S – Mensuration

(a) side × side (b) length + breadth

(c) $4 \times$ side (d) none of these

Ans.

6. Pictures of objects represent

T – 1 min
S – Data handling

(a) bar graph (b) pictograph

(c) curve (d) none of these

Ans.

7. $\frac{5}{25}$ is equal to

T – 1 min
S – Mensuration

(a) $\frac{1}{5}$ (b) $\frac{1}{10}$

(c) $\frac{1}{25}$ (d) none of these

Ans.

8. The figure below consists of 2 semicircles. AO = OB. Find the perimeter of the figure. (Take π = 3.14)

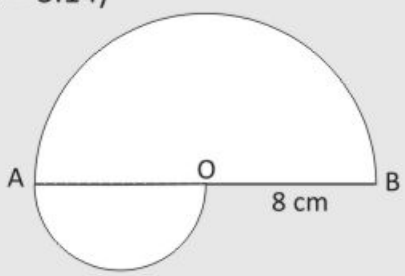
T – 1 min
S – Mensuration

(a) 37.68 cm

(b) 41.68 cm

(c) 45.68 cm

(d) 83.36 cm



Ans.

9. 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.

T – 1 min
S – Data handling

(a) 90 ml (b) 270 ml

(c) 330 ml (d) 540 ml

Ans.

10. The square below has the same perimeter as the circle. Find the length of a side of the square. $\left(\text{Take } \pi = \frac{22}{7}\right)$

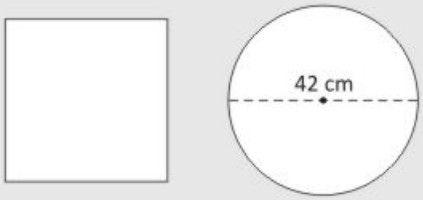
T – 1 min
S – Mensuration

(a) 22 cm

(b) 33 cm

(c) 42 cm

(d) 132 cm



Ans.

True or False

11. Pictograph helps answer the question on the data at a glance.

T – 1 min
S – Mensuration

Ans.

12. Group of five tally marks = 𝍸

T – 1 min
S – Data handling

Ans.

13. Side of a square = $\frac{\text{perimeter}}{4}$

T – 1 min
S – Mensuration

Ans.

14. All decimals can also be represented on a number line.

T – 1 min
S – Mensuration

Ans.

15. 1 gram = 1000 kg

T – 1 min
S – Decimals

Ans.

16. $\frac{1}{100} = 0.1$

T – 1 min
S – Decimals

Ans.

17. 65 paise = 6.5 ruppes

T – 1 min
S – Decimals

Ans.

18. $1.08 = 1 + \frac{0}{10} + \frac{8}{100} + \frac{0}{1000}$

T – 1 min
S – Decimals

Ans.

19. $5.4 + 3.04 = 8.44$

T – 1 min
S – Decimals

Ans.

20. $3.89 - 1.09 = 2.80$

T – 1 min
S – Decimals

Ans.

Simple Questions

Solve the following:

21. $3.89 + 4.62 + 3.80$

T – 1 min
S – Decimals

Ans.

22. $6.32 - 5.60 - 0.20$

T – 1 min
S – Decimals

Ans.

23. $8.32 + 5.9 - 3.28$

T – 1 min
S – Decimals

Ans.

24. Find the equivalent fraction of $\frac{3}{5}$ with denominator.

T – 1 min
S – Fractions

Ans.

25. Find the equivalent fraction of $\frac{7}{9}$ with numerator 35.

T	– 1 min
S	– Fractions

Ans.

26. Compare $\frac{5}{6}$ and $\frac{7}{8}$

T	– 1 min
S	– Fractions

Ans.

27. Compare $\frac{3}{8}$ and $\frac{2}{9}$

T	– 1 min
S	– Fractions

Ans.

28. Find the value of $\frac{3}{5}+\frac{4}{5}$

T	– 1 min
S	– Fractions

Ans.

29. Find the value of $\frac{6}{7}+\frac{7}{8}$

T – 1 min
S – Fractions

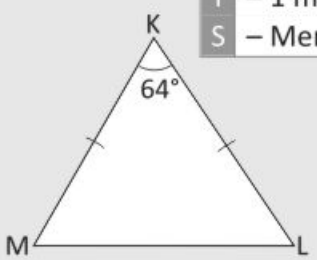
Ans.

30. Find the value of $\frac{6}{9}+\frac{7}{8}$

T – 1 min
S – Fractions

Ans.

31. Find $\angle KLM$.



T – 1 min
S – Mensuration

Ans.

32. What is the reading indicated by the arrow?

T – 1 min
S – Data handling

Ans.

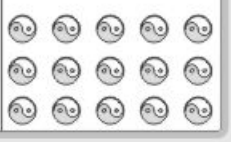
33. $4.1 + 0.407 = 4 + 0.5 + 7 \times \square$

What is the missing number in the box?

T – 1 min
S – Decimals

Ans.

34. (a)

Ones	Tenths	Hundredths	Thousandths
			

T – 1 min
S – Decimals

(b)

Ones	Tenths	Hundredths	Thousandths
			

Ans.

35. (a)

Ones	Tenths	Hundredths	Thousandths
			

T – 1 min
S – Decimals

(b)

Ones	Tenths	Hundredths	Thousandths
			

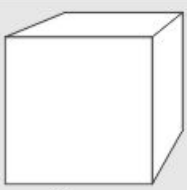
Ans.

Complete the following table:

	Length	Breadth	Height	Volume
36.	4 m	4 m	4 m	_____ m
37.	8 cm	9 cm	_____ cm	864 cm
38.	_____ m	21 m	21 m	9261 cm
39.	18 cm	9 cm	_____ cm	3402 cm
40.	10 m	12 m	14 m	_____ m

41. Volume of the cube = _____ cm^3

T – 1 min
S – Mensuration

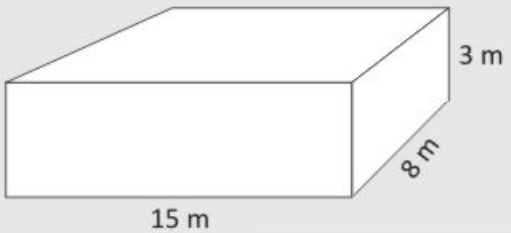


6 cm

Ans.

42. Volume of the cuboid = _____ cm^3

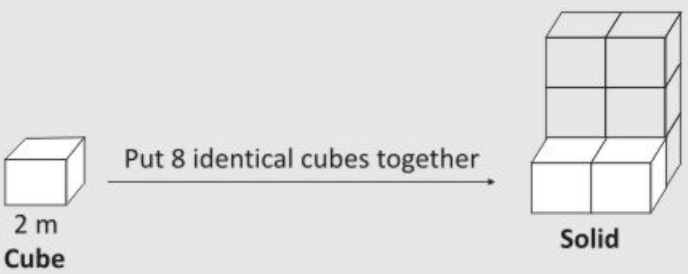
T – 1 min
S – Mensuration



Ans.

43. Volume of each cube = _____ m^3

T – 1 min
S – Mensuration



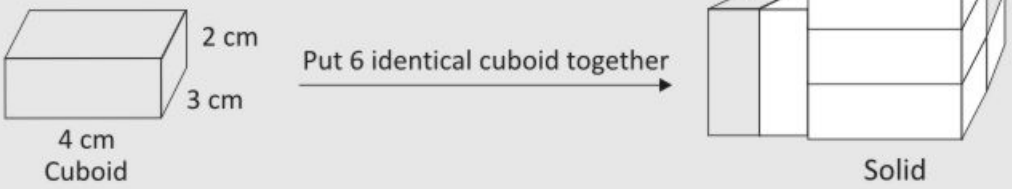
Ans.

44. Volume of the solid = _____ m^3

T – 1 min
S – Mensuration

Ans.

45.



(a) Volume of each cuboid = _____ cm^3

(b) Volume of the solid = _____ cm^3

T – 1 min
S – Mensuration

Ans.

46. Complete the fractions:

T – 1 min
S – Fractions

(a) $0.123 = \frac{1}{10} + \frac{2}{100} + \frac{\quad}{1000}$

(b) $0.876 = \frac{876}{\quad}$

Ans.

47. Complete the fractions:

T – 1 min
S – Fractions

(a) $31.504 = 31 + \frac{\quad}{1000}$

(b) $97.531 = 97 + \frac{5}{10} + \frac{\quad}{100} + \frac{1}{1000}$

Ans.

For questions 48 to 49, fill in the blanks with 'less than', 'greater than' or 'equal to'

48. 5.0 is _____ $\frac{5}{10}$

T – 1 min
S – Decimals

Ans.

49. 9.99 is _____ 10

T – 1 min
S – Decimals

Ans.

50. $\frac{8}{9} - \frac{3}{9} =$

T – 1 min
S – Fractions

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. The length of a rectangular field is twice its breadth. Given that its perimeter is 84 metres, find its length and breadth.

T – 1 min
S – Mensuration

Ans.

52. The area of a square of side 16 cm is the same as that of a rectangle of length 64 cm. What is the breadth of the rectangle?

T – 1 min
S – Mensuration

Ans.

53. Two sides of a triangle are 15 cm and 20 cm. The perimeter of the triangle is 50 cm. What is the third side?

T – 1 min
S – Mensuration

Ans.

54. How many rectangles can be drawn with 36 cm as the perimeter, given that the sides are positive integers in cm?

T	– 1 min
S	– Mensuration

Ans.

55. If 6 oil tankers can be filled by a pipe in $4\frac{1}{2}$ hours, how much time will be taken by pipe to fill 4 such oil tankers?

T	– 1 min
S	– Data handling

Ans.

56. The dimensions of two cuboids are 1 cm × 2 cm × 4 cm and 3 cm × 6 cm × 12 cm. Find the volume V_1 and V_2. Compare them.

T	– 1 min
S	– Mensuration

Ans.

For questions 57 and 58, complete each number pattern.

57. 1.475, _____, _____, 0.875, 0.675, 0.475, 0.275

T	– 1 min
S	– Decimals

Ans.

58. 10.30, 11.41, 12.52, 13.63, _____, 15.85, _____, 18.07, 19.18.

T	– 1 min
S	– Decimals

Ans.

59. Subtract 1.27 from the sum of 0.687 and 2.74.

T	– 1 min
S	– Decimals

Ans.

60. Subtract the sum of 2.8 and 3.403 from 6.901.

T	– 1 min
S	– Decimals

Ans.

61. Find the difference between 2.108 and the sum of 1.079 and 3.498.

T	– 1 min
S	– Decimals

Ans.

62. Subtract the sum of 2.34 and 2.612 from the sum of 1.099 and 7.38.

T	– 1 min
S	– Decimals

Ans.

63. Find the difference between the sum of 6.07 and 7.60, and the sum of 1.202 and 2.09.

T	– 1 min
S	– Decimals

Ans.

64. Annie was given half of a pizza and Dolly was given one-sixth of it. The remaining pizza was shared equally among 4 other children. What fraction of the pizza did each of the 4 children get?

T	– 1 min
S	– Fractions

Ans.

65. Mrs Lim had a tape with a length of 1 m 5 cm. She cut off 7.9 cm from it. What was the length of the tape she had left?

T	– 1 min
S	– Fractions

Ans.

66. The monthly consumption of cereals in a hostel of 400 students is 5200 kg. Find the consumption, if the number of students is only 65?

T – 2 min
S – Data handling

Ans.

67. The cost of 30 metres of polyster cloth is Rs 150. Find the cost of 16 metres of cloth.

T – 2 min
S – Data handling

Ans.

68. A family of 4 persons consumes 6 kg of sugar in a month. What will be the monthly consumption of sugar, if the number of family members becomes 6?

T – 2 min
S – Data handling

Ans.

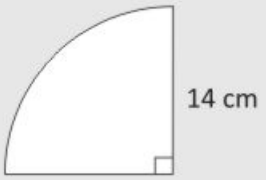
69. A wheel has a diameter of 15 cm. What distance will it cover if it turns 10 complete rounds? (Take $\pi = 3.14$)

T – 2 min
S – Mensuration

Ans.

70. Find the perimeter of the quadrant below. $\left[\text{Take } \pi = \frac{22}{7}\right]$

T – 2 min
S – Mensuration



Ans.

71. Arrange the numbers in ascending order.
0.2, 0.002, 0.22, 0.02, 0.222

T – 2 min
S – Decimals

Ans.

72. Arrange the numbers in ascending order
2.1, 3.5, 4.8, 2.5, 3.4, 0.8

T – 2 min
S – Decimals

Ans.

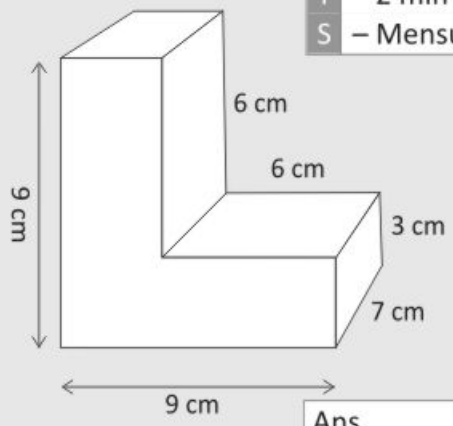
73. Arrange the numbers in descending order
10.01, 0.011, 0.101, 1.001, 0.110

T – 2 min
S – Decimals

Ans.

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

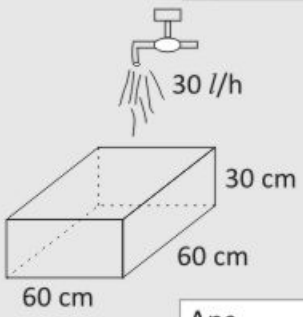
T – 2 min
S – Mensuration



Ans.

75. 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?

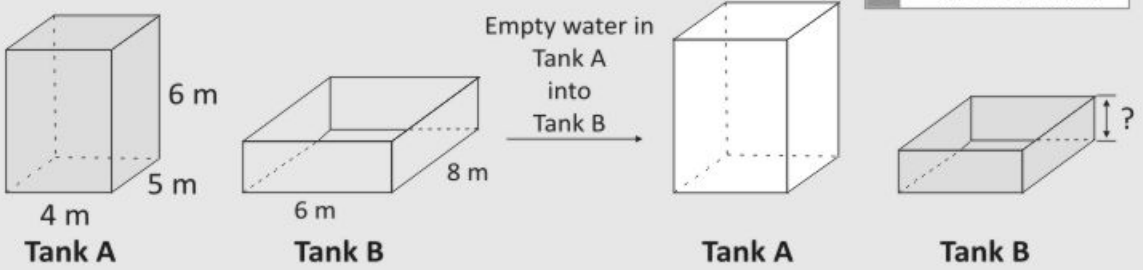
T – 2 min
S – Mensuration



Ans.

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

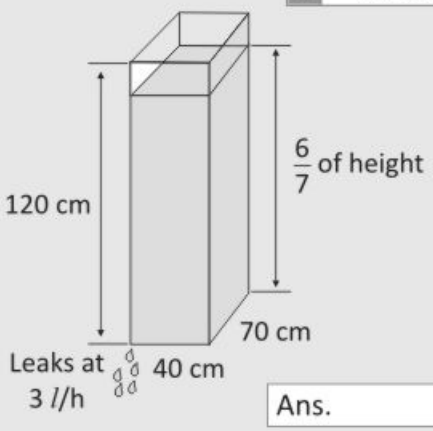
T – 2 min
S – Mensuration



Ans.

77. 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. ($1l = 10cm^3$)

T – 2 min
S – Mensuration



Ans.

Simplify the following:

78. $\frac{8}{11} - \frac{7}{18}$

T – 2 min
S – Fractions

Ans.

79. $2\frac{5}{9} + 3\frac{6}{7}$

T – 2 min
S – Fractions

Ans.

80. $6\frac{19}{30} - 3\frac{5}{6}$

T – 2 min
S – Fractions

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. Mr Gopal had 204 kg of barley. He packed them into 64 packets, each with the same weight of barley, and had 2.4 kg of barley left. Later, he removed 0.15 kg of barley from each packet, mixed the barley with the 2.4 kg of barley left, and packed them into packets of the same new weight of barley in the 64 packets. How many more packets of barley would he get?

T	– 2 min
S	– Decimals

Ans.

82. Malm Halimah bought a dozen pencils and a dozen pens for Rs 28.80. 1 of the pencil and 3 of the pens cost Rs 6.60. Find the cost of each pen.

T	– 2 min
S	– Decimals

Ans.

83. Estimate the value 32.21 and 47.35 by first rounding off sum to the nearest one decimal place.

T	– 2 min
S	– Decimals

Ans.

84. Find the value of $124 \div 3$ corrected to 2 decimal place.

T – 2 min
S – Decimals

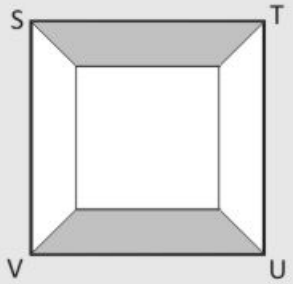
Ans.

85. Arrange the numbers in ascending order.
0.2, 2.5, 2.05, 0.002, 0.025, 0.0025

T – 2 min
S – Decimals

Ans.

86. In the figure below, *STUV* is a square of side 40 cm. The smaller square in the centre of the figure has a perimeter of 88 cm. Calculate the area of the shaded parts of the figure.



T – 2 min
S – Mensuration

Ans.

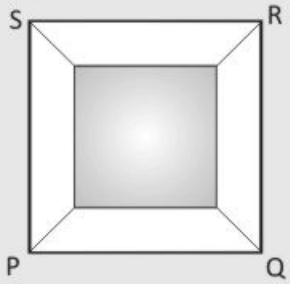
87. A circle has radius 10cm. If the radius increased by 20%, find the increase in the perimeter of the circle? [$\pi = 3.14$]

T – 2 min
S – Mensuration

Ans.

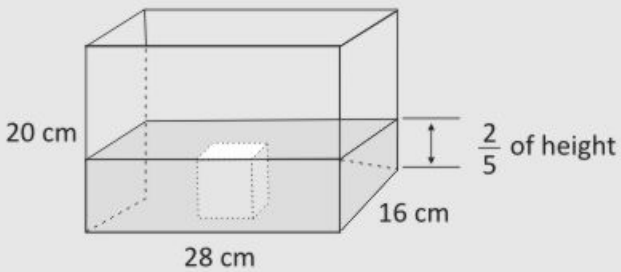
88. In the figure, *PQRS* is a square. The perimeter of small square is 100cm. Calculate the area of the shaded part?

T – 2 min
S – Mensuration



Ans.

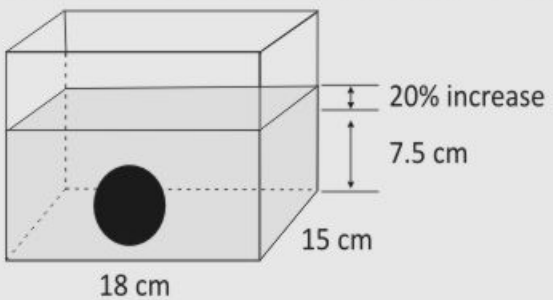
89. The top surface of an iron cube is at the same level as the water in a rectangular tank. What is the volume of water needed to fill the tank?



T – 2 min
S – Mensuration

Ans.

90. There is some water in a rectangular container. When an iron ball is completely submerged in the water, the water level rises 20%. Find the volume of the metal ball.



T – 2 min
S – Mensuration

Ans.

91. Nandu's monthly income is Rs.8500. If he saves $\frac{3}{17}$ of his earnings, find

(a) his monthly saving

(b) his expenditure per month

T – 2 min
S – Fractions

Ans.

92. A cord is 42 m long. How many pieces each of length $1\frac{3}{4}$ m can be cut from it?

T – 2 min
S – Fractions

Ans.

93. A man gave $\frac{1}{3}$ of his money to his son, $\frac{1}{5}$ to his friend and the remaining to his daughter. If his daughter gets Rs.35000 what was the total amount?

T – 2 min
S – Fractions

Ans.

94. Raghav spends $\frac{3}{7}$ of his pocket money on purchasing Math CD and is left with Rs.120. Find the cost of CD.

T – 2 min
S – Fractions

Ans.

95. The cost of one metre cloth is Rs.24.75. find the cost of 2.8 m cloth.

T	– 2 min
S	– Decimals

Ans.

96. A sportsman travelled 26 km 54 m by bus, 105 km 965 m by car and rest 1 km 87 m he walked. How much distance did he travel in all?

T	– 3 min
S	– Decimals

Ans.

The following pictograph shows the number of car manufactured by a factory in year.

 = 1000 cars

Year	Number of cars manufactured
2005	
2006	
2007	
2008	
2009	

97. On which year were the least number of cars manufactured?

T	– 12 min
S	– Data handling

Ans.

98. On which year were the maximum number of cars manufactured?

Ans.

99. Find out the number of cars manufactured in 2005 and 2009.

Ans.

100. How many cars are manufactured in year 2009?

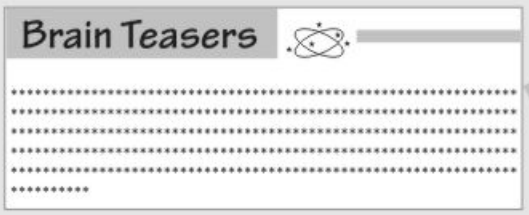
Ans.

Tools at a glance

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

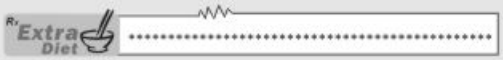
Let's Chat, the feature with suggestive topics for discussion so as to improve your capacity to debate on various topics.

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 (Fair)
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