Grade 06
Unit 12

Maths

Course Outline

- Summative 2

MAT

(Monthly Achievement Tests)

Short Code: 447307

Test ID: NMM06U0120

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 VIBRANT MINDS **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. If the cost of 3 pens is Rs.30 then what will be the cost of 10 pens

(a) Rs.90 (b) Rs.50

(c) Rs.120 (d) Rs.100

T – 1 min
S – Ratio and proportion

Ans.

2. $\frac{9}{14} = \frac{\square}{70}$

(a) 45 (b) 95

(c) 14 (d) none of these

T – 1 min
S – Ratio and proportion

Ans.

3. Area of a square of 12 cm

(a) $24\,cm^2$ (b) $48\,cm^2$

(c) $144\,cm^2$ (d) $156\,cm^2$

T – 1 min
S – Mensuration

Ans.

4. If the perimeter of a square is 4 cm find its area.

(a) $4\,cm^2$ (b) $1\,cm^2$

(c) $8\,cm^2$ (d) none of these

T – 1 min
S – Mensuration

Ans.

5. Mr Chang can travel 128 km in 2 h. His average speed is _____ km/h.

(a) 64 (b) 126

(c) 130 (d) 256

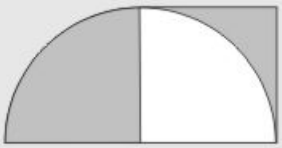
T – 1 min
S – Ratio and proportion

Ans.

6. The figure is made up of a square and a semicircle. What is the area of the shaded parts? (Take $\pi = \frac{22}{7}$)

T – 1 min
S – Mensuration

(a) 441 cm^2
(b) 1386 cm^2
(c) 94.5 cm^2
(d) 346.5 cm^2



Ans.

7. Julie has 16 brooches fewer than Vicki who has 44 brooches. How many brooches must Vicki give to Julie so that both of them have the same number of brooches?

T – 1 min
S – Ratio and proportion

(a) 4 (b) 8
(c) 28 (d) 30

Ans.

8. Boon's height is 1.53 m, 6 cm shorter than Meng. What is the average height of Boon and Meng?

T – 1 min
S – Ratio and proportion

(a) 1.56 m (b) 1.59 m
(c) 3.06 (d) 3.12

Ans.

9. 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?

T – 1 min
S – Ratio and proportion

(a) 11 am (b) 12 noon
(c) 10.30 am (d) 12.30 pm

Ans.

10. $3x + 5 = 9x - 13$

T – 1 min
S – Algebra

(a) $x = 6$ (b) $x = 3$
(c) $x = 2$ (d) none of these

Ans.

True or False

11. Unit of perimeter is cm^2.

T – 1 min
S – Mensuration

Ans.

12. Perimeter of square is $2 \times$ side.

T – 1 min
S – Mensuration

Ans.

13. The number of corners of a quadrilateral is a variable.

T – 1 min
S – Algebra

Ans.

14. $x+4=y+x$ is the property of commutativity of addition of numbers

T – 1 min
S – Algebra

Ans.

15. $x+3=4$ is an equation

T – 1 min
S – Algebra

Ans.

16. The mirror image of O is same.

T – 1 min
S – Symmetry

Ans.

17. In kaleidoscope, two mirrors strips forming a V shape are used.

T – 1 min
S – Symmetry

Ans.

18. Every fraction can be written in the term of decimals.

T – 1 min
S – Algebra

Ans.

19. $5.05+3.08=8.13$

T – 1 min
S – Algebra

Ans.

20. $5\frac{3}{5} = \frac{28}{5}$

T – 1 min
S – Algebra

Ans.

21. 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 – 1 min
S – Ratio and proportion

Ans.

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

T – 1 min
S – Ratio and proportion

Ans.

23. 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 – 1 min
S – Ratio and proportion

Ans.

24. Lito's weight is 73 kg, 4 kg more than Minto. What is the average weight of Lito & Minto?

T – 1 min
S – Ratio and proportion

Ans.

25. Find the value of 12 m if m = 4

T	– 1 min
S	– Algebra

Ans.

26. Simplify $28p - 42p + 18p - 2p + 9p$

T	– 1 min
S	– Algebra

Ans.

27. A clock shows 7.00 am. If the hour hand turns 150° clockwise, what time will the clock show?

T	– 1 min
S	– Ratio and proportion

Ans.

28. The number of pupils in a school doubled every year. The school had its full intake of 1600 pupils in the year 2004. In which year did the school start with an intake of only 25 pupils?

T	– 1 min
S	– Ratio and proportion

Ans.

29. A number, N, is smaller than 50. N is a multiple of 6 as well as a multiple of 9. What is the smallest possible number of N?

T	– 1 min
S	– Ratio and proportion

Ans.

30. The area of circle is $2\pi r$

T	– 1 min
S	– Mensuration

Ans.

31. 8.1 + 4.3

T	– 1 min
S	– Mensuration

Ans.

32. 0.43 + 0.72

T	– 1 min
S	– Mensuration

Ans.

33. 0.7 – 0.3

T	– 1 min
S	– Mensuration

Ans.

34. $1.873 = 1 + \frac{873}{\quad}$

T – 1 min
S – Mensuration

Ans.

35. $83.321 = 83 + \frac{\quad}{10} + \frac{2}{\quad} + \frac{1}{1000}$

T – 1 min
S – Fractions

Ans.

For questions 36 to 37, write each mixed number as a decimal.

36. $4\frac{7}{10} =$

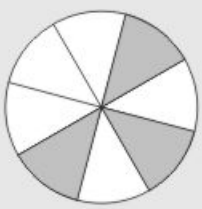
T – 1 min
S – Fractions

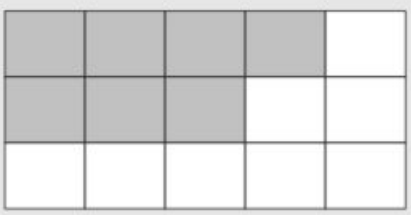
Ans.

37. $3\frac{13}{100} =$

T – 1 min
S – Fractions

Ans.

38. (a) 

(b) 

T – 1 min
S – Fractions

Ans.

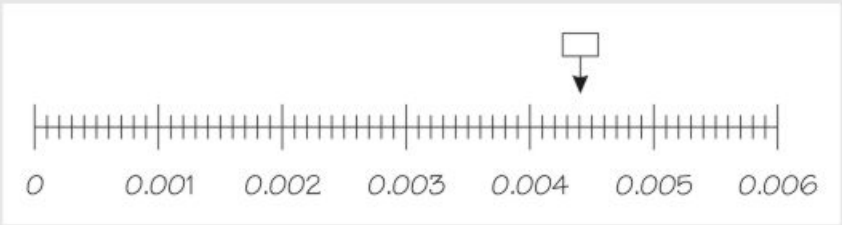
38.

Rs 50	Rs 50	Rs 50	Rs 50	Rs 50
Rs 50	Rs 50	Rs 50	Rs 50	Rs 50

T – 1 min
S – Fractions

Ans.

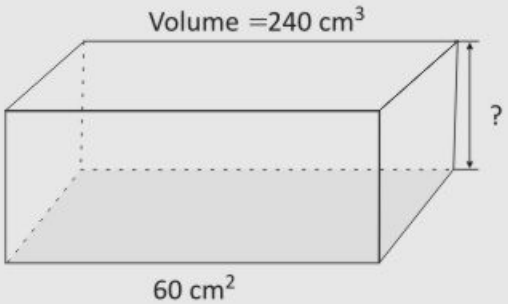
40. Write the decimal.



T – 1 min
S – Decimals

Ans.

41. Height of the cuboid = _____ cm



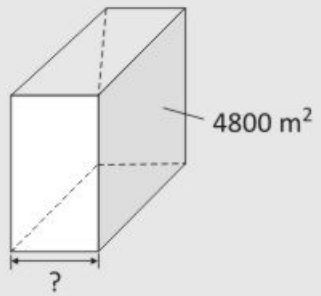
T – 1 min
S – Mensuration

Ans.

42. Length of the cuboid = _____ m

T – 1 min
S – Mensuration

Volume = 96 000 m^3

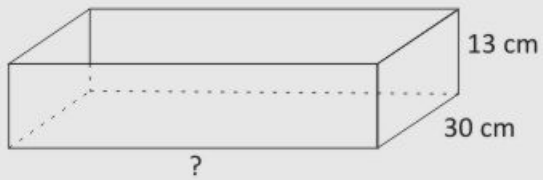


Ans.

43. Length of the tank = _____ cm.

T – 1 min
S – Mensuration

Capacity of tank = 46.8 L



Ans.

44. 1.5 is _____ 1.05

T – 1 min
S – Decimal

Ans.

45. 10.25 is _____ 10.025

T – 1 min
S – Decimal

Ans.

46. $5\frac{111}{1000}$ is _____ 5.111

T – 1 min
S – Fractions

Ans.

47. $2.0125 = 2 + 0 + \frac{1}{100} + \frac{2}{1000} +$ _____ .

T – 1 min
S – Fractions

Ans.

48. Perimeter of a circle is _____ .

T – 1 min
S – Mensuration

Ans.

49. A _____ represents data through pictures of objects.

T – 1 min
S – Data handling

Ans.

50. Distance = _____ × time

T – 1 min
S – Ratio and proportion

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. Basin A had 3 times as much water as Basin B. Kim added 550 ml of water to Basin A and 1.7 l of water to Basin B. Then the 2 basins had the same amount of water. How many litres of water was in Basin A in the end?

T – 1 min
S – Decimals

Ans.

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

T – 1 min
S – Mensuration

Ans.

53. If $x + 9 = 18$ find x

T – 1 min
S – Algebra

Ans.

54. $2.4 \div 4$

T – 1 min
S – Decimals

Ans.

55. If $m - 9 = -7$ find m

T – 1 min
S – Algebra

Ans.

56. $0.20 \div 4$

T – 1 min
S – Decimals

Ans.

57. Put + and = in the blank space to get the correct number statement.
1.24 _____ 3.47 _____ 4.71

T – 1 min
S – Decimals

Ans.

58. Verify : $(1.21 + 1.31) + 1.42 = 1.21 + (1.31 + 1.42)$

T – 1 min
S – Decimals

Ans.

59. Verify : $(1.1 \times 1.2) \times 1.3 = 1.1 \times (1.2 \times 1.3)$

T	– 1 min
S	– Decimals

Ans.

60. The angles of triangle are in the ratio 2 : 3 : 4. The largest angle is _____ .

T	– 1 min
S	– Ratio and proportion

Ans.

61. The area of a rectangular park is 527 m^2. If its length is 31 m then its perimeter is

T	– 1 min
S	– Mensuration

Ans.

62. A rectangular measuring 10 m by 4 m by 6 m is filled with water by $\frac{3}{5}$ of its height .

(a) Find the capacity of the container.

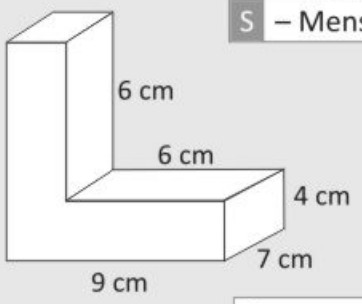
(b) How much more water is needed to fill up the container completely?

T	– 1 min
S	– Mensuration

Ans.

63. The solid below is formed by 2 cuboids. Find the volume of the solid.

T – 1 min
S – Mensuration



Ans.

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

T – 1 min
S – Mensuration

Ans.

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

T – 1 min
S – Mensuration

Ans.

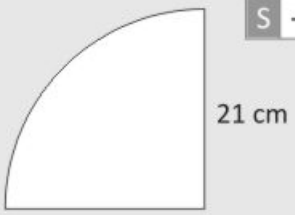
66. A wheel has a diameter of 15 cm. What distance will it cover if it turns 10 complete rounds?

T – 2 min
S – Mensuration

Ans.

67. Perimeter of the following quadrate

T	– 2 min
S	– Mensuration



Ans.

68. Volume of cuboid $= 240\ cm^3$ and area of the base is $60\ cm^2$. Find the height.

T	– 2 min
S	– Mensuration

Ans.

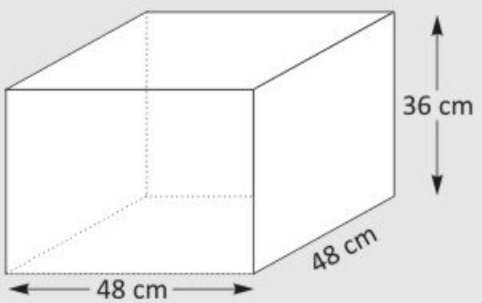
69. Find the length of the cuboid tank whose capacity is 46.8*l*, breadth 30 cm, height 13 cm.

T	– 2 min
S	– Mensuration

Ans.

70. A rectangular tank having dimension of 48 cm by 36 cm by 48 cm. Find the capacity of the tank.

T	– 2 min
S	– Mensuration



Ans.

71. The ratio of the sale of eggs on a Sunday to that of the whole week of a grocery shop was 2 : 9. If the total sale of eggs in the same week was Rs 360. Find the sale of eggs on the Sunday?

T	– 2 min
S	– Ratio and proportion

Ans.

72. The ratio of brown rice to white rice in a 5 kg packet of mixed rice is 7 : 13. The amount of brown rice in the 5 kg packed of mixed rice is?

T	– 2 min
S	– Ratio and proportion

Ans.

73. The sum of 6 tenths and 41 hundredths and 3 thousandths written as a decimal is?

T	– 2 min
S	– Decimals

Ans.

74. Lilly has 20 10-cent coins and 45 20-cent coins in her purse. How much money does Lilly have in her purse?

T	– 2 min
S	– Decimals

Ans.

75. *PQRS* is a square. The perimeter of the small square is 80 cm. Calculate the area of shaded portion.
PM = *MS* and *QN* = *NR*

T – 2 min
S – Mensuration

Ans.

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

T – 2 min
S – Ratio and proportion

Ans.

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

T – 2 min
S – Ratio and proportion

Ans.

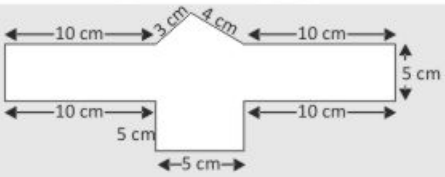
78. Vimal bought 8 kg 80g of wheat, 3 kg 50 g of sugar and 6 kg 300 g of rice. Find the total weight of all the items he bought.

T – 2 min
S – Decimals

Ans.

Find the perimeter of following figures

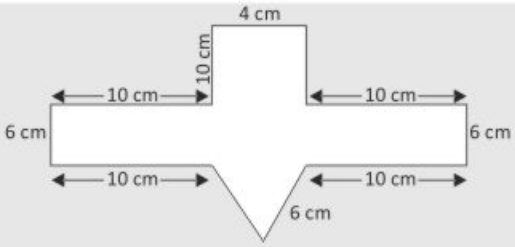
79.



T – 2 min
S – Mensuration

Ans.

80.



T – 2 min
S – Mensuration

Ans.

20 Thinking Ability Questions

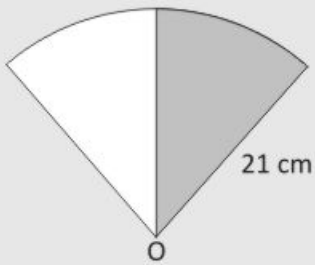
Opening Window

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 circle is divided into 8 equal quadrants as shown below. Find the area of the quadrant. $\left(\pi = \frac{22}{7}\right)$

T – 2 min
S – Mensuration



Ans.

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

T – 2 min
S – Mensuration

Ans.

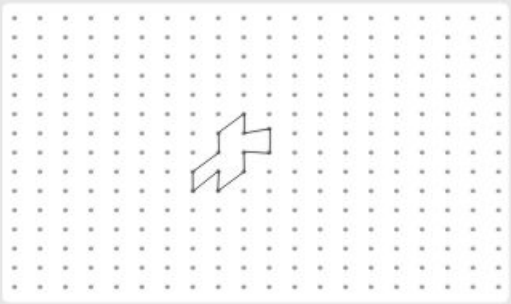
83. Four times a certain number is as much less than 60 as seven times a number is greater than 61.

T – 1 min
S – Algebra

Ans.

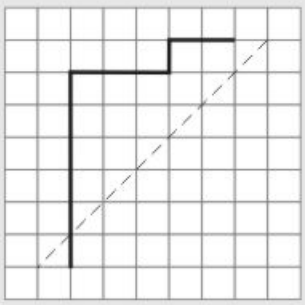
84. Tessellate the given shape. Draw at least another 6 units to show the tessellation.

T – 2 min
S – Mensuration



Ans.

85. Complete the figure which is symmetrical about the dotted lines.



T – 2 min
S – Symmetry

Ans.

86. The total weights of 3 sacks of flour, A, B and C, is z kg. Sack A and Sack C are each 3 kg lighter than Sack B.

(a) What is the weight, in terms of z, of sack A?

(b) If the 3 sacks of flour weigh a total of 33 kg, what is the weight of Sack B?

T – 2 min
S – Algebra

Ans.

87. Of the 3 numbers, the first is twice the second and half the third. If the average of the numbers, is 56, the three numbers in order are?

T	– 2 min
S	– Algebra

Ans.

88. $\frac{1}{3}$ and $\frac{1}{4}$ parts of two cans of equal volume are filled with milk. The cans are filled to capacity with water and mixture of the two cans are poured in a big pot. What is the ratio of milk and water in the new pot?

T	– 2 min
S	– Ratio and proportion

Ans.

89. Anshu is three times as old as Deepak. After 3 years she will be twice as old as Deepak. Find their present age.

T	– 2 min
S	– Algebra

Ans.

90. A man cut off 12.75 m from a length of rope. His son cut off another piece of rope which was 7.3 shorter than the piece cut off by his father. The remaining length of the rope was thrice the total length cut off. What was the original length of the rope?

T – 2 min
S – Algebra

Ans.

91. 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.

92. A rectangular plot of area 43560 m^2 has length and breadth in the ratio 5 : 2. A gravel path 5 cm wide runs out side close to its four sides. If it costs Rs 590 to gravel the path at 25 paise per m^3 the path gravelled is?

T – 2 min
S – Mensuration

Ans.

93. $\frac{1}{3}$ and $\frac{1}{4}$ parts of two cans of equal volume are filled with milk. The cans are filled to capacity with water and mixture of the two cans are poured into a big pot. What is the ratio of milk and water in the new pot?

T – 2 min
S – Ratio and proportion

Ans.

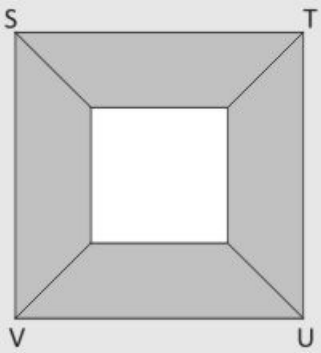
94. The ratio of the length of a school ground to its width is 5 : 2. Find its length if the width is 60 metres.

T – 2 min
S – Ratio and proportion

Ans.

95. 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 part of the figure.

T – 2 min
S – Mensuration



Ans.

96. 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 empty?

T – 3 min
S – Ratio and proportion

Ans.

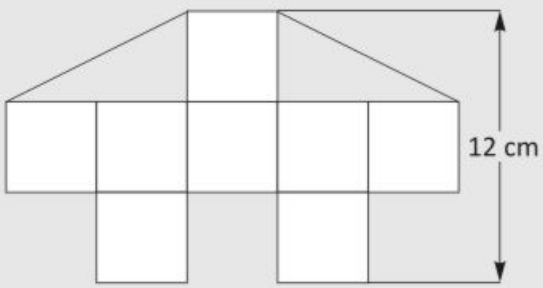
97. A rectangular container measured 300 cm by 180 cm by 160 cm. Water was pumped into the container at a rate of 0.5 *l*/min and simultaneously pumped out. Inlet pump automatically switched off when the container was completely filled. After how many hours would the container be completely filled?

T – 3 min
S – Mensuration

Ans.

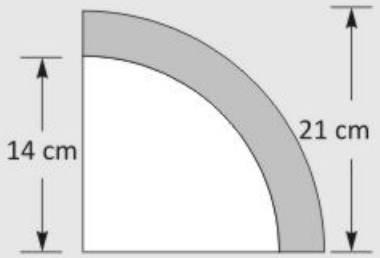
98. The figure below is made up of 8 identical squares and 2 identical triangles. What is the area of the figure?

T – 3 min
S – Mensuration



Ans.

99. The adjoining figure shows by a smaller quadrant within a larger quadrant. $\left(\text{Take } \pi = \frac{22}{7}\right)$. Find the difference in perimeter.

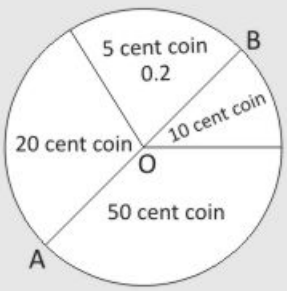


T	– 3 min
S	– Mensuration

Ans.

100. The pie chart below that shows the number of coins of different denominations in a bag. AOB is the diameter of a circle.The total value of the 30 cent coin $ 16.80. Find the total number of coins in the bag.

T	– 1 min
S	– Data handling



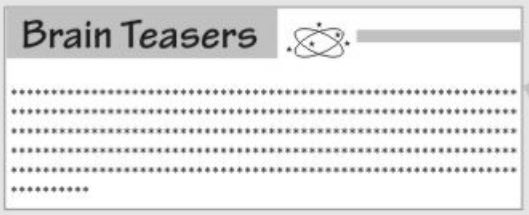
Ans.

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