Grade 07
Unit 03

Maths

Course Outline

Formative 1

- ⊙ Integers
- ⊙ Fractions and decimals
- ⊙ Simple equations
- ⊙ Lines and angles

MAT
(Monthly Achievement Tests)

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.

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. $\dfrac{13}{48}$ is :

   (a) terminating decimal

   (b) Non-terminating decimal

   (c) simple decimal

   (d) none of these

   T – 1 min
   S – Fractions and decimals

   Ans.

2. The decimal form of rational number $\dfrac{11}{3}$ is :

   (a) 3.66   (b) 3.24

   (c) 3.79   (d) 3.69

   T – 1 min
   S – Fractions and decimals

   Ans.

3. Decimal representative of $\dfrac{-2}{9}$ is:

   (a) 0.4   (b) −0.4

   (c) 0.2   (d) −0.2

   T – 1 min
   S – Fractions and decimals

   Ans.

4. Decimal form of $\dfrac{3}{400}$ is:

   (a) 0.395   (b) .768

   (c) 0.075   (d) 0.0075

   T – 1 min
   S – Fractions and decimals

   Ans.

5. Evaluate $7.452 \div (-2.8)$

(a) $\dfrac{-20}{21}$

(b) $\dfrac{-20}{25}$

(c) $\dfrac{-20}{23}$

(d) $\dfrac{-21}{25}$

| T | – 1 min |
| S | – Fractions and decimals |

Ans.

6. Which of the following is an improper fraction?

(a) $\dfrac{1}{3}$

(b) $\dfrac{2}{3}$

(c) $\dfrac{4}{5}$

(d) None of these

| T | – 1 min |
| S | – Fractions and decimals |

Ans.

7. By what number should be $3\dfrac{2}{3}$ be multiplied to get 45?

(a) $12\dfrac{1}{11}$

(b) $12\dfrac{4}{11}$

(c) $12\dfrac{3}{11}$

(d) None of these

| T | – 1 min |
| S | – Fractions and decimals |

Ans.

8. Find the equal fraction of $\dfrac{3}{4}$.

(a) $\dfrac{15}{20}$

(b) $\dfrac{12}{8}$

(c) $\dfrac{6}{14}$

(d) $\dfrac{6}{3}$

| T | – 1 min |
| S | – Fractions and decimals |

Ans.

9. If $3x + 18 = 18$ then $x =$

(a) 18

(b) 0

(c) 14

(d) 9

| T | – 1 min |
| S | – Fractions and decimals |

Ans.

10. If $18x + 14 = 32$ then $x =$

(a) 1

(b) 2

(c) 14

(d) 0

| T | – 1 min |
| S | – Simple equations |

Ans.

True or False

11. The product of three negative integers is a positive integers.

| T | – 1 min |
| S | – Integers |

Ans.

12. Reciprocal of a non zero fraction $\dfrac{a}{b}$ is $\dfrac{a}{b}$.

T	– 1 min
S	– Fraction and decimals

Ans.

13. The numbers expressed in decimal form are called whole number.

T	– 1 min
S	– Fraction and decimals

Ans.

14. Mode is the value of the variable which occurs most frequently.

T	– 1 min
S	– Data handling

Ans.

15. Each outcome is called an experiment.

T	– 1 min
S	– Data handling

Ans.

16. When n is odd, value of median is $\dfrac{n}{2}$ th observation.

T	– 1 min
S	– Data handling

Ans.

17. $a:b:c$ are said to be in continued proportion.

T	– 1 min
S	– Data handling

Ans.

18. $\dfrac{8}{7} \div \dfrac{5}{6} = \dfrac{5}{6} \div \dfrac{8}{7}$

T	– 1 min
S	– Fraction and decimals

Ans.

19. $0 \div \dfrac{5}{9} = 0$

T	– 1 min
S	– Fraction and decimals

Ans.

20. $\dfrac{7}{6} \div \left(\dfrac{3}{4} \div \dfrac{9}{11} \right) = \left(\dfrac{7}{6} \div \dfrac{3}{4} \right) \div \dfrac{9}{11}$

T	– 1 min
S	– Fraction and decimals

Ans.

Fill in the blanks.

21. $(-8) + 0 = $ _____ .

T – 1 min
S – Integers

Ans.

22. $a \times (-b) = (-a) \times b = $ _____ .

T – 1 min
S – Integers

Ans.

23. The non-zero numbers whose product with each other is 1 are called the _____ of each other.

T – 1 min
S – Integers

Ans.

24. One fourth of m is _____ .

T – 1 min
S – Fractions and decimals

Ans.

25. While transposing a number we change its _____ .

T – 1 min
S – Integers

Ans.

26. Arranging the numerical figures in ascending or descending order is called an _____.

T – 1 min
S – Data handling

Ans.

27. _____ is the subject that deals with the collection, presentation, analysis, and interpretation of numerical data.

T – 1 min
S – Data handling

Ans.

28. _____ $\div 69 = 0$

T – 1 min
S – Integers

Ans.

29. The number of times a particular observation occurs is called its _____ ?

T	– 1 min
S	– Data handling

Ans.

30. Mode $= 3$ (Median) _____

T	– 1 min
S	– Data handling

Ans.

Questions 31–32. Use the sign of > < or = in the box to make the statement true.

31. $39 + (-24) - (15)$ _____ $36 + (-52) - (-36)$

T	– 1 min
S	– Integers

Ans.

32. $(-5) + (-2) + (-12)$ _____ $(-7) + (-10) + (-2)$

T	– 1 min
S	– Integers

Ans.

33. Find the product of integers.
15×-16

T	– 1 min
S	– Integers

Ans.

34. The cost of $6\dfrac{2}{3}$ m of cloth is Rs. 36. Find the cost of 1 m cloth?

T	– 1 min
S	– Fractions and decimals

Ans.

35. The sum of two integers is 103. If one of them is -61, Find the other one.

T	– 1 min
S	– Simple equations

Ans.

36. $-6 \times$ ____ $= 6$

T	– 1 min
S	– Integers

Ans.

37. $.8 \times 3.5 \times .005$

T	– 1 min
S	– Fractions and decimals

Ans.

38. $(0.11)^2$

T	– 1 min
S	– Fractions and decimals

Ans.

39. Divide 63 by $2\frac{1}{4}$

T	– 1 min
S	– Fractions and decimals

Ans.

40. Find the reciprocal of $3\frac{4}{5}$.

Ans.

41. Divide 16.578 by 5.4

Ans.

42. $137.2 \div 100$

Ans.

43. Two poles of height 9 m and 14 m stand upright on a plane ground. The distance between their feet is 12 m. Find the distance between their tops.

Ans.

44. Find the product of integers.
$6 \times (-19)$

Ans.

Questions 45–50. Write a pair of integers whose sum gives.

45. A negative integer

Ans.

46. Zero

Ans.

47. An integer smaller than both the integers.

Ans.

48. An integer smaller than only one of the integers.

Ans.

49. An integer greater than both the integers.

Ans.

50. $-31 \times -100 =$

Ans.

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. $-17 \times 0 =$ _____

T	– 1 min
S	– Integers

Ans.

52. $-3(2+7) = -3 \times$ _____ $+ -3 \times 7$

T	– 1 min
S	– Integers

Ans.

53. $15 \times 5 + 15 \times 3 = 15 \times$ _____

T	– 1 min
S	– Integers

Ans.

54. Find x?

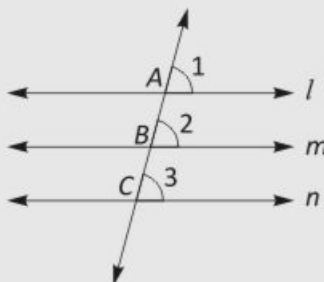| T	– 1 min
S	– Lines and angles

$125°$

p

l

m

x
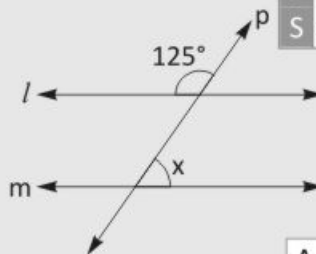
Ans.

55. In the adjoining figure, it is given that $\angle A = 60°$, $CE \parallel BA$ and $\angle ECD = 65°$. Find $\angle ACB$.
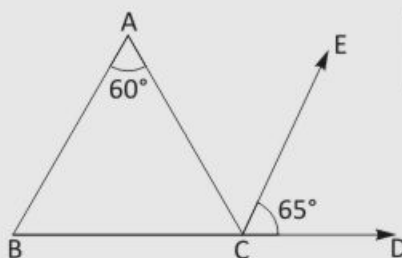
Ans.

56. Prove that two lines which are parallel to the same given line, are parallel to each other.

Ans.

Questions 57–58. Write the statement form of each equation.

57. $5p = 20$

Ans.

58. $3x + 7 = 1$

Ans.

Questions 59–60. Write equation for the following statements.

59. Ten times a is 70

Ans.

60. One fifth of a number m is 3

Ans.

Questions 61–63. Solve the equations and verify the results.

61. $x - 4 = 20$

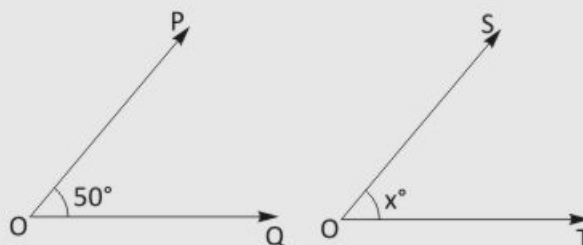| T	– 3 min
S	– Simple equations

Ans.

62. $x + 6 = 26$

Ans.

63. $\dfrac{x}{16} = 48$

Ans.

64. In the figures two angles $\angle POQ$ and $\angle SOT$ are complementary angles, then find the value of $\angle SOT$?

T	– 1 min
S	– Lines and angles

Ans.

65. Add:

    (a) Rs 4.75 + Rs 15.25 + Rs 6.20

    (b) 80.350 kg + 816.540 kg + 1010.550 kg

T	– 1 min
S	– Fractions and decimals

Ans.

Verify the following

66. $4.7 \times 2.1 = 2.1 \times 4.7$

T	– 2 min
S	– Fractions and decimals

Ans.

67. If $\dfrac{p}{q} = 5.\overline{3} + 2.\overline{3}$, find $\dfrac{p}{q}$

T	– 2 min
S	– Fractions and decimals

Ans.

68. Evaluate and express the resulting number as a rational number.

    (a) $257.894 \div 0.169$

    (b) $(1.2)^2 \times (0.9)^2 \div 1000$

T	– 2 min
S	– Fractions and decimals

Ans.

69. A generator uses 16.2 litres of diesel everyday. How much diesel is required to run the generator for a week?

| T | – 2 min |
| S | – Fractions and decimals |

Ans.

70. A train covered 975.50 km on the first day, 1025.25 km on the second day and 846.75 km on the third day. How much distance did the train cover in 3 days?

| T | – 2 min |
| S | – Fractions and decimals |

Ans.

71. Find the area of a rectangle whose length is 5.7 cm and breadth is 2.4 cm.

| T | – 2 min |
| S | – Fractions and decimals |

Ans.

72. Suman had Rs 170.50, after spending Rs 925.25. How much money did Suman have in the beginning?

| T | – 2 min |
| S | – Fractions and decimals |

Ans.

73. 1.9 m of cloth is required for a shirt. How many such shirts can be made from a piece of cloth 45.25 m long?

T – 2 min
S – Fractions and decimals

Ans.

74. A vehicle covers a distance of 43.2 km in 2.4 litres of petrol. How much distance will it cover in one litre of petrol?

T – 2 min
S – Fractions and decimals

Ans.

75. A boat covered a distance of 25.72 km in one hour. What distance will it cover in 16 hours?

T – 2 min
S – Fractions and decimals

Ans.

76. Find the probability of finding head, when we toss a coin.

T – 2 min
S – Data handling

Ans.

77-80, Survey repart of a school in given below.

Favourite Sport	Table Tenis	Cricket	Hockey	Basket Ball	Chess
Participating students	60	100	30	80	100
Vienvers	800	1200	600	900	500

77. Draw a double bar graph choosing an appropriate scale.

T – 8 min
S – Data handling

Ans.

78. Which sport is most popular.

Ans.

79. Which sport has least vieners

Ans.
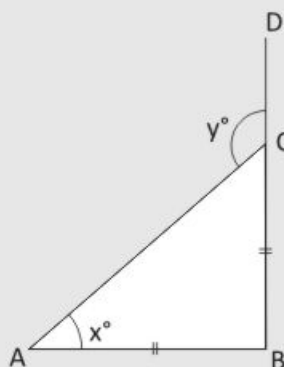
80. Which sport has maximum vilhers.

Ans.

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. Find *x* and *y*.

T	– 1 min
S	– Lines and angles

Ans.

82. Two supplementary angles are in the ratio 2 : 3. Find both the angles?

T	– 1 min
S	– Lines and angles

Ans.

Questions 83–84. Find whether the angles are the supplementary angles in the following pairs or not.

83.

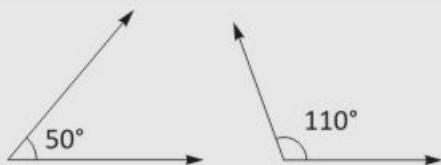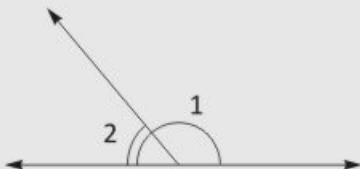| T	– 3 min
S	– Lines and angles

Ans.

84.

Ans. [_____]

85. Among two supplementary angles, the measure of the larger angle is 44° more than the measure of the smaller angle. Find their measures.

T	– 2 min
S	– Lines and angles

Ans. [_____]

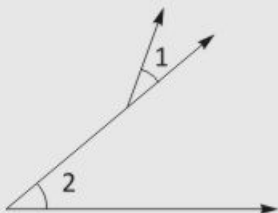**Questions 86–87. Identify whether the marked angles in each of the figure are adjacent or not. If not, why?**

86.

T	– 4 min
S	– Lines and angles

Ans. [_____]

87.

Ans. [_____]

88. Sum of two numbers is 230. If one exceeds the other by 20, find the numbers.

T	– 2 min
S	– Simple equations

Ans.

89. Find the mean of your sleeping hours during one week.
Based upon supposition

Day	Mon	Tue	Wed	her	Fri	Sat	Sun
Hour of Sleep	6	5	7	6	7	8	5

T	– 2 min
S	– Data handling

Ans.

90. The adjoining figure has been obtained by using two triangles. Find $\angle A + \angle B + \angle C + \angle D + \angle E + \angle F$

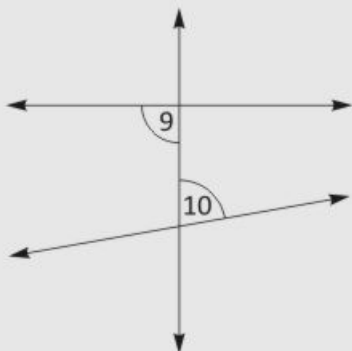| T	– 2 min
S	– Lines and angles

Ans.
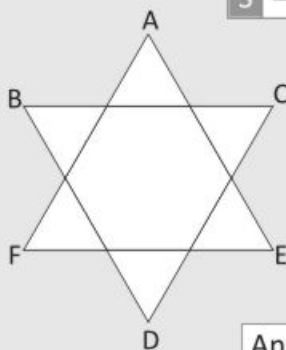
T	– 6 min
S	– Lines and angles

91.

Ans.

92.
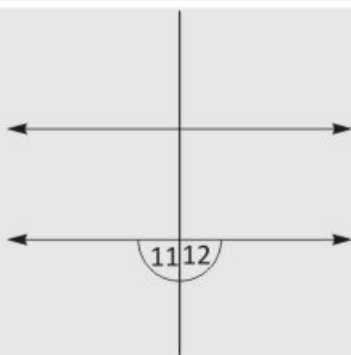
Ans.

93. Is $l \parallel m$? why ?

T	– 2 min
S	– Lines and angles
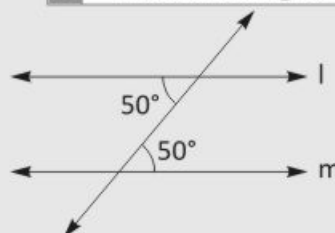
Ans.

94. In the figure, if $\angle 1 = 30°$ find $\angle 2$ and $\angle 3$.

T	– 2 min
S	– Lines and angles

Ans.

21
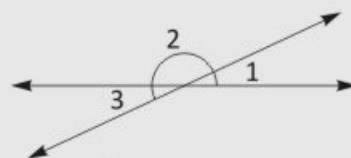
95. A coolie had to carry a bedding, a suitcase and a bag. The weight of the suitcase is $\frac{2}{5}$ of the weight of the bedding. The weight of the bag is $\frac{1}{4}$ of the weight of the suitcase. If the weight of the bag is 2.56 kg, what is the total weight he had to carry?

T	– 3 min
S	– Fractions and decimals

Ans.

96. A man travels a distance 275.36 km. Half of this distance he travelled by train. One fourth of the distance travelled by bus, and the rest he covers by scooter. What is the distance he travelled by Scooter?

T	– 3 min
S	– Fractions and decimals

Ans.

97. A bus travels 645.60 km in two days. On the first day, it travelled 424.75 km. How much distance did it cover on the second day?

T	– 3 min
S	– Fractions and decimals

Ans.

98. The price of a wrist-watch is Rs 783.75. How much money will be needed to buy 48 such watches?

| T | – 3 min |
| S | – Fractions and decimals |

Ans.

99. Find the median of the following data
55, 10, 11, 50, 42, 14, 15, 38, 28, 35, 25, 18

| T | – 3 min |
| S | – Data handling |

Ans.

100. Find the mode of the following numbers
3, 5, 4, 9, 11, 12, 5, 5, 8, 4, 5
6, 7, 5, 8, 9, 11, 5, 9, 2, 8

| T | – 3 min |
| S | – Data handling |

Ans.

Tools at a glance

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

Opening Window

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

T — ....
S — ....

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

Let's Chat
****
****

Brain Teasers
....
....
....
....
....

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.

Extra Diet ....

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