Student ID | | | | | | | | | | | |

Directorate of Education, GNCT of Delhi

Practice Paper (Mid-Term)

Session: 2026-27

Class – VII

Subject-Mathematics

Duration: $2\frac{1}{2}$ hours **Max. Marks: 60**

GENERAL INSTRUCTIONS:

Read the following instructions carefully and follow them:

1. This question paper has 16 questions. All questions are compulsory.
2. Question paper is divided into **FIVE** sections-Section A, B, C, D and E.
3. In section A-question number 1 has multiple choice questions (MCQs) of 1 mark each.
4. In section B-question number 2 to 7 are very short answer (VSA) type questions of 02 marks each.
5. In section C-question number 8 to 10 are short answer (SA) type questions carrying 03 marks each.
6. In section D-question number 11 to 13 are long answer (LA) type questions carrying 05 marks each.
7. In section E-question number 14 to 16 are source based/case study questions carrying 04 marks each.
8. There is no overall choice. However, an internal choice has been provided in 1 question in Section B, 1 question in Section C, 2 questions in Section D and in each 2 marks questions in Section E.
9. Draw neat figures wherever required. Take $\pi = \frac{22}{7}$ wherever required if not stated.
10. Use of calculator is NOT allowed.
11. **Please write down the serial number of questions before attempting it.**

SECTION-A

Question 1 consists of Multiple-Choice Questions (i-xii) of 1 mark each. Choose the appropriate option from the given options: **$(12 \times 1 = 12)$**

1 (i) 1 million is 1 followed by:

(a) 5 zeroes (b) 6 zeroes

(c) 7 zeroes (d) 9 zeroes

1 (ii) The value of $30 + 5 \times 4$ is:

(a) 50 (b) 140

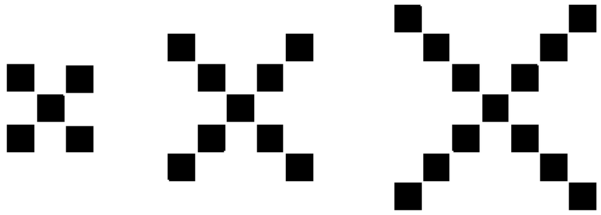
(c) 18 (d) 11

1 (iii) How many tenths make one ten?

(a) 1 (b) 10

(c) 100 (d) 1000

1 (iv) Observe the pattern below. How many squares will be there in Step 4?



(a) 17 (b) 18

(c) 20 (d) 21

1 (v) Perpendicular lines are a pair of lines which intersect each other at:

(a) 120° (b) 125°

(c) 110° (d) 90°

1 (vi) The next term of the Virahāṅka sequence 1, 2, 3, 5, 8, 13, 21…is

(a) 25 (b) 30

(c) 32 (d) 34

1 (vii) The sum of the angles of a triangle is always equals to:

(a) One right angle (b) Two right angles

(c) Three right angles (d) Four right angles

1 (viii) The value of $\frac{3}{4} \div \frac{6}{8}$ is:

(a) 0 (b) 1

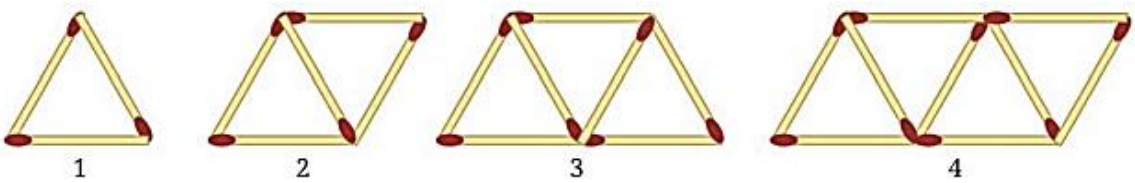
(c) 2 (d) 3

1 (ix) 7 units and 5 hundredths, when written in decimal notation, is

(a) 7.5 (b) 70.5

(c) 7.05 (d) 700.5

1 (x) The number of matchsticks in Step 5 is:



(a) 10 (b) 11

(c) 12 (d) 13

1 (xi) 1 gram = _____ milligrams

(a) 10 (b) 100

(c) 1000 (d) 10000

1 (xii) 1 hour of internet time costs ₹8. How much will $1\frac{1}{4}$ hours of internet time cost?

(a) ₹9 (b) ₹10

(c) ₹12 (d) ₹16

SECTION-B

Question 2 to 7 are Very Short Answer Type Questions of 2 marks each **$(6\times 2 = 12)$**

2. Add brackets at appropriate places in the expressions such that they lead to the values indicated.

(a) 34 – 9 + 12 = 13

(b) 56 – 14 – 8 = 34

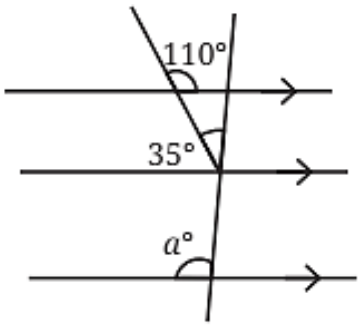
3. **(a)** Sonu is measuring some of his body parts. The length of Sonu's lower arm is $2\frac{7}{10}$ units, and that of his upper arm is $3\frac{6}{10}$ units. What is the total length of his arm?

OR

3. **(b)** A Celestial Pearl Danio's length is $2\frac{4}{10}$ cm, and the length of a Philippine Goby is $\frac{9}{10}$ cm. What is the difference in their lengths?

4. One plate of Jowar roti costs ₹30 and one plate of Pulao costs ₹20. If x plates of Jowar roti and y plates of pulao were ordered in a day, write an expression to describe the total amount in rupees earned that day.

5. Find the angle represented by a.



6. Which of these are the same: 4.5, 4.05, 0.405, 4.050, 4.50, 4.005, 04.50?

7. Find the third angle of a triangle (using a parallel line) when two of the angles are:

(a) 36°, 72°

(b) 150°, 15°

SECTION-C

Question 8 to 10 are Short Answer Type Questions of 3 marks each **(3× 3 = 9)**

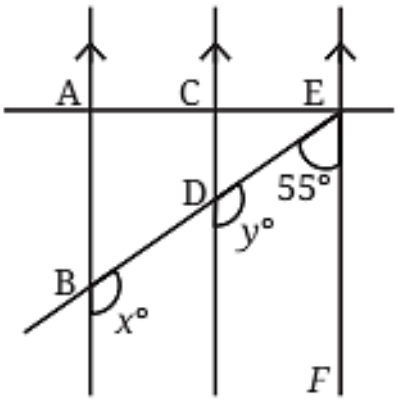
8. Compare the following pairs of expressions using '<', '>' or '=': $(1\frac{1}{2} + 1\frac{1}{2})$

(a) 49 – 7 + 8 ☐ 49 – 7 + 8

(b) 83 × 42 – 18 ☐ 83 × 40 – 18

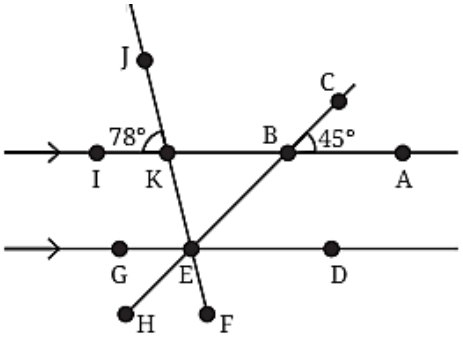
9. Mahi purchases 0.25 kg of beans, 0.3 kg of carrots, 0.5 kg of potatoes, 0.2 kg of capsicums, and 0.05 kg of ginger. Calculate the total weight of the items she bought.

10. (a) In Fig. given below, AB is parallel to CD and CD is parallel to EF. Also, EA is perpendicular to AB. If ∠BEF = 55°, find the values of x and y.



OR

10. (b) In Fig. given below, ∠ABC = 45° and ∠IKJ = 78°. Find angles ∠GEH, ∠HEF, ∠FED.



SECTION-D

Question 11 to 13 are Long Answer Type Questions of 5 marks each **(3× 5 = 15)**

11. (a) Somu's apartment building has a height of 40 m. Bald eagles are known to fly at altitudes ranging from 4500 m to 6000 m above ground level.

(i) How many times bigger is the eagles' minimum flight height 4500 m compared to the height of Somu's building? [2 Marks]

(ii) How many times bigger is the eagles' maximum flight height 6000 m compared to the height of Somu's building? [2 Marks]

(iii) If an aeroplane flies at 12000 m, how many times higher is it flying compared to Somu's building? [1 Mark]

OR

11. (b) A standard basketball hoop stands at a height of exactly 3 m from the court floor. The Burj Khalifa (the tallest building in the world) has a height of 828 m commercial passenger airplane typically cruises at an altitude of 10, 500 m.

(i) How many times taller is the Burj Khalifa compared to the height of the basketball hoop? [2 Marks]

(ii) How many times higher is the cruising aeroplane flying compared to the height of the basketball hoop? [2 Marks]

(iii) If a small drone flies at 150 m, how many times higher is it compared to the basketball hoop? [1 Mark]

12. Two consecutive numbers in the Virahanka sequence are 987 and 1597. What are the next 3 numbers in the sequence? What are the previous 2 numbers in the sequence?

13. Construct a triangle ABC with BC = 5 cm, AB = 6 cm, CA = 5 cm. Construct an altitude from A to BC.

SECTION-E

Question 14 to 16 are Source Based/Case Study Questions of 4 marks each **$(3\times 4 = 12)$**

14. An electronics hobbyist is building a mini robot and buys specific components from an online wholesale market. The component details and their individual costs are given in the table below:

Component	Quantity	Cost per Unit
Micro-screws	100 pieces	45 paise per screw
Connecting Wires	10 pieces	₹7.50 per wire
Sensor Chips	10 pieces	₹120.25 per chip

Based on the information given above, answer the following questions:

(i) What is the total cost of 100 pieces of micro-screws expressed in Rupees? [1 Mark]

(ii) If the length of one connecting wire is 12.5 cm, what will be the total length of all 10 wires combined, expressed in meters [1 Mark]

(iii) (a) Find the total amount spent on purchasing all 10 sensor chips. [2 Marks]

OR

(iii)(b) The hobbyist originally allocated ₹1500 for the sensor chips. After buying the 10 chips, how much money is left from the allocated amount? [2 Marks]

15. Rohan is setting up rows of square tables for a school science exhibition. When he places the tables end-to-end in a single straight row, the arrangement of seating chairs changes depending on the number of tables joined together. For 1 single square table, he can place 4 chairs (one on each side). When he pushes 2 square tables together in a row, two inner sides are joined, allowing room for 6 chairs. When he pushes 3 square tables together in a row, it allows room for 8 chairs. He notices a clear pattern where each additional table added to the row increases the total seating capacity by exactly 2 chairs.

Based on the information given above, answer the following questions:

(i) If 't' represents the number of square tables pushed together in a single row, write a general mathematical expression using the letter-number 't' to find the total number of chairs that can be placed. [1 Mark]

(ii) Rohan decides to make a long central counter by pushing 15 square tables together in a single row. How many chairs can be placed around this counter? [1 Mark]

(iii) **(a)** If the department provides Rohan with exactly 42 chairs for a specific exhibit row, find the total number of square tables he needs to join together to use all the chairs. [2 Marks]

OR

(iii)(b) For a larger display section, Rohan creates two separate rows of tables. Row A has 8 tables joined end-to-end, and Row B has 12 tables joined end-to-end. Find the total number of chairs needed for both rows combined. [2 Marks]

16. An NGO is organizing a community plantation drive to green a local neighbourhood. They have allocated a large rectangular patch of land for this purpose. A total of 48 litres of organic liquid fertilizer is stored in a drum. Each young sapling requires exactly $\frac{3}{4}$ litre of this fertilizer mixed into its soil during planting. The volunteers managed to complete $\frac{2}{3}$ of their target planting work on the very first day.

Based on the information given above, answer the following questions:

(i) How many total saplings can be treated using the entire 48 litres of fertilizer stored in the drum? [1 Mark]

(ii) If the total targeted area of the plantation land is 150 square meters, what area of land was successfully planted on the first day? [1 Mark]

(iii) **(a)** On the second day, the remaining $\frac{1}{3}$ of the plantation land needs to be equally divided among 5 local student groups. What fraction of the total land will each student group get to plant? [2 Marks]

OR

(iii) **(b)** On the second day, the remaining $\frac{1}{3}$ of the plantation land needs to be equally divided among 6 local student groups. What fraction of the total land will each student group get to plant? [2 Marks]