

Mathematics

Sample Question Paper – 5

Class 7 (Ganita Prakash Part - I)

Time Allowed: 2 Hours 30 Minutes

Maximum Marks: 60

GENERAL INSTRUCTIONS

1. This question paper has 16 questions. All questions are compulsory.
2. The question paper is divided into FIVE sections - Section A, B, C, D and E.
3. In Section A, Question 1 contains twelve Multiple Choice Questions (MCQs) of 1 mark each.
4. In Section B, Questions 2 to 7 are Very Short Answer (VSA) type questions of 2 marks each.
5. In Section C, Questions 8 to 10 are Short Answer (SA) type questions carrying 3 marks each.
6. In Section D, Questions 11 to 13 are Long Answer (LA) type questions carrying 5 marks each.
7. In Section E, Questions 14 to 16 are source-based/case-study questions carrying 4 marks each.
8. There is no overall choice. Internal choice is provided in one question in Section B, one question in Section C, two questions in Section D and in the 2-mark sub-question of each case study in Section E.
9. Draw neat figures wherever required. Use ruler, compass and set-square wherever appropriate.
10. Use of calculator is not allowed.

SECTION – A

Question 1 consists of Multiple-Choice Questions (i-xii) of 1 mark each.

(12 × 1 = 12)

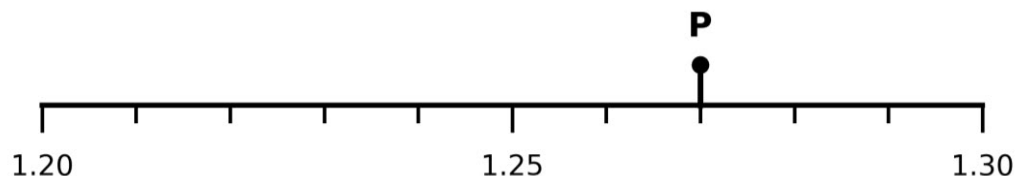
1 (i) One arab is equal to:

- (a) 10 crore (b) 100 crore
(c) 1,000 crore (d) 10 lakh

1 (ii) The value of $58 - (17 - 5)$ is:

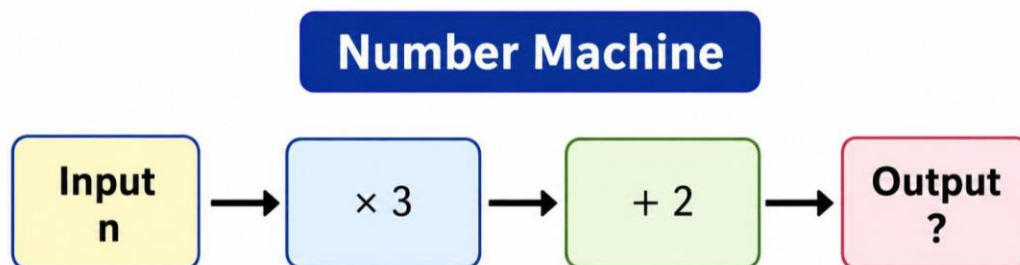
- (a) 36 (b) 46
(c) 56 (d) 70

1 (iii) Point P is marked on the number line below. Which decimal does P represent?



- (a) 1.24 (b) 1.25
(c) 1.27 (d) 1.29

1 (iv) Observe the number machine. Which expression gives the output for input n ?



- (a) $3n + 2$ (b) $3(n + 2)$
(c) $n + 5$ (d) $2n + 3$

1 (v) Which expression is always odd for a whole number m ?

- | | |
|--------------|--------------|
| (a) $2m$ | (b) $4m + 2$ |
| (c) $6m - 1$ | (d) $8m$ |

1 (vi) A triangle has angles 35° , 55° and 90° . It is a:

- | | |
|----------------------------|---------------------------|
| (a) acute-angled triangle | (b) right-angled triangle |
| (c) obtuse-angled triangle | (d) equilateral triangle |

1 (vii) The value of $7/12 \div 14/9$ is:

- | | |
|------------|-------------|
| (a) $3/8$ | (b) $8/3$ |
| (c) $7/18$ | (d) $21/26$ |

1 (viii) 8,46,720 rounded to the nearest lakh is:

- | | |
|--------------|--------------|
| (a) 8,00,000 | (b) 8,50,000 |
| (c) 9,00,000 | (d) 8,46,000 |

1 (ix) 4.205 kg is equal to:

- | | |
|--------------|-------------|
| (a) 420.5 g | (b) 4,205 g |
| (c) 42,050 g | (d) 405 g |

1 (x) Two consecutive Virahāṅka numbers are 55 and 89. The previous term is:

- | | |
|--------|---------|
| (a) 21 | (b) 34 |
| (c) 44 | (d) 144 |

1 (xi) Which is the greatest decimal number?

- | | |
|-----------|------------|
| (a) 7.406 | (b) 7.46 |
| (c) 7.064 | (d) 7.4060 |

1 (xii) A quick value of 72×125 is:

- | | |
|------------|-----------|
| (a) 900 | (b) 9,000 |
| (c) 90,000 | (d) 8,125 |

SECTION - B

Questions 2 to 7 are Very Short Answer Type Questions of 2 marks each. (6 × 2 = 12)

2. A calculator has buttons +1, +10, +100 and +1000. Write an expression that makes 4,308 using the smallest possible number of button presses. How many presses are needed?

3. Fill in the blanks using reasoning so that both sides are equal:

- (a) $463 + \underline{\hspace{1cm}} = 470 + 28$
(b) $500 - 129 = 503 - \underline{\hspace{1cm}}$

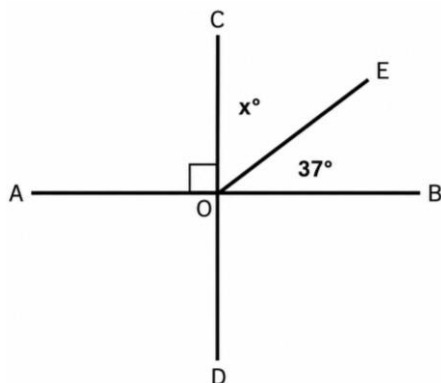
4. (a) A rope is 5.75 m long and another rope is 2.68 m long. Find their total length.

OR

4. (b) Find $\frac{7}{8} \times \frac{4}{7}$ and simplify the product.

5. A hall has r rows of chairs. Each row has 4 chairs, and 2 extra chairs are kept near the entrance. Write an expression for the total number of chairs. Find the total when $r = 9$.

6. In the figure, AB is perpendicular to CD and $\angle BOE = 37^\circ$. Find $x = \angle COE$. Also write the measure of the angle vertically opposite to $\angle BOE$.



7. A bulb is ON. It is toggled 41 times. Will the bulb finally be ON or OFF? Give a reason using parity.

SECTION - C

Questions 8 to 10 are Short Answer Type Questions of 3 marks each.

(3 × 3 = 9)

8. Observe the growing chain of matchstick triangles shown below.

(a) How many matchsticks are used in Steps 1, 2 and 3?

(b) How many matchsticks will be needed for Step 7?

(c) Write an expression for the number of matchsticks in Step n .



Step 1



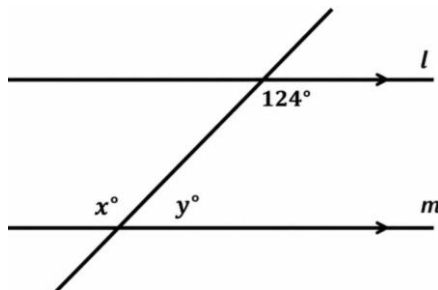
Step 2



Step 3

9. A carpenter has a 6 m wooden strip. He cuts pieces of lengths 2.75 m, 1.825 m and 0.95 m. Find the total length used and the length left.

10. (a) In the figure below, $l \parallel m$. Find x and y , giving the angle relationships used.



OR

10. (b) One angle of a triangle is 72° and the second angle is twice the third angle. Find all three angles.

SECTION - D

Questions 11 to 13 are Long Answer Type Questions of 5 marks each.

(3 × 5 = 15)

11. (a) Creative Chitti has buttons +1, +10, +100, +1000 and +10000.

(i) Write two different button-click expressions to make 34,218. [2]

(ii) Write the expression that uses the least number of button presses. [2]

(iii) How many presses are used in that least-click expression? [1]

OR

11. (b) Systematic Sippy has buttons +1, +10, +100, +1000, +10000 and +100000.

(i) Make 62,407 using the smallest number of button presses. [2]

(ii) Write the corresponding place-value expression. [2]

(iii) How many total button presses are needed? [1]

12. (a) A baker uses $\frac{5}{8}$ kg of flour for one tray of bread. She has 15 kg flour.

(i) How many complete trays can she make? [2]

(ii) How much flour is used for 18 trays? [2]

(iii) How much flour remains after making 18 trays? [1]

OR

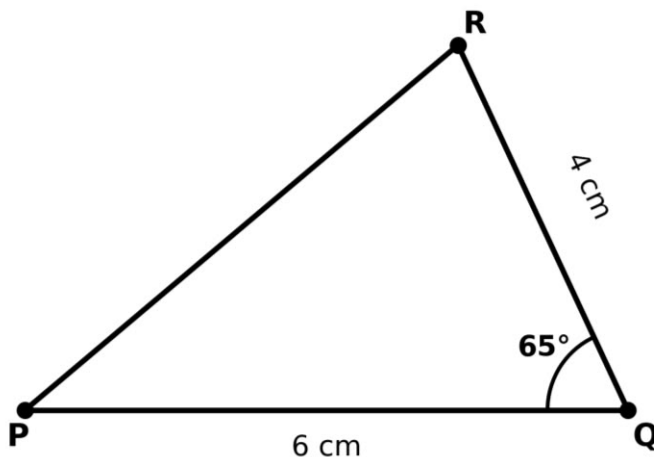
12. (b) A water dispenser fills bottles of capacity $\frac{3}{5}$ litre. It contains 18 litres of water.

(i) How many full bottles can be filled? [2]

(ii) If 14 bottles are filled, how much water is used? [2]

(iii) How much water remains? [1]

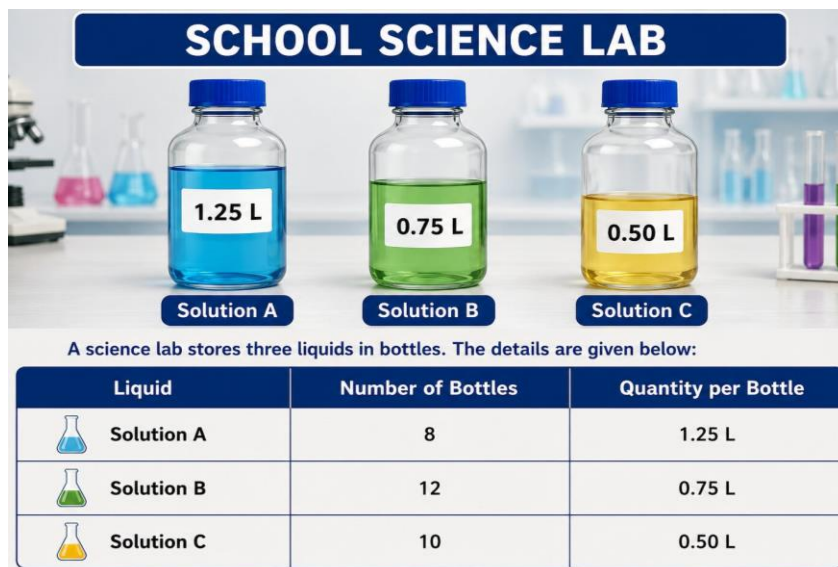
13. Construct triangle PQR with PQ = 6 cm, QR = 4 cm and $\angle PQR = 65^\circ$. Then construct the altitude from R to PQ. Write the main construction steps clearly.



SECTION – E

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

14. School Science Lab



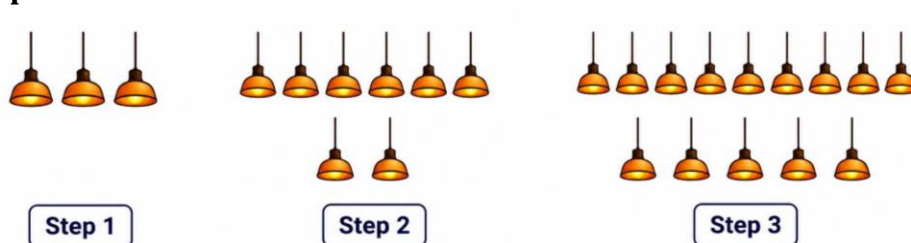
Based on the information above, answer the following questions:

- (i) Find the total quantity of Solution A. [1]
- (ii) Find the total quantity of Solution B. [1]
- (iii) (a) Find the total quantity of Solutions A and C together. [2]

OR

- (iii) (b) The lab had allocated 20 L storage space for Solutions A and B together. How much space remains unused? [2]

15. Festival Lamp Pattern



A decoration team makes a growing lamp pattern. Step 1 uses 4 lamps, Step 2 uses 7 lamps and Step 3 uses 10 lamps. Each new step uses 3 more lamps than the previous step.

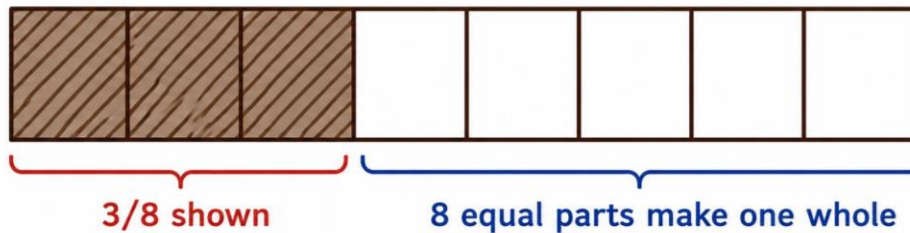
Based on the pattern above, answer the following questions:

- (i) Write an expression for the number of lamps in Step n . [1]
- (ii) How many lamps are needed for Step 12? [1]
- (iii) (a) Which step will use 49 lamps? [2]

OR

- (iii) (b) Find the number of lamps needed for Step 8 and for Step 15. [2]

16. Chocolate Bar Fractions



A box contains 24 identical chocolate bars. Of these, $\frac{3}{8}$ are dark chocolate bars and $\frac{1}{4}$ are milk chocolate bars. The remaining bars are white chocolate bars.

Based on the information above, answer the following questions:

- (i) How many dark chocolate bars are there? [1]
- (ii) How many milk chocolate bars are there? [1]
- (iii) (a) What fraction of the bars are white chocolate, and how many white chocolate bars are there? [2]

OR

- (iii) (b) The dark chocolate bars are shared equally among 3 student groups. How many dark chocolate bars does each group get? [2]