

**DAV PUBLIC SCHOOL POKHARIPUT BHUBANESWAR**  
**SAMPLE PAPER FOR HALF EARLY EXAMINATION 2022-23**  
**CLASS:VII,SUBJECT: MATHEMATICS**

**Time: 3 Hours**

**Maximum Marks: 80**

**General Instructions:**

- This question paper contains 5 sections: **A, B, C, D** and **E**.
- **Sec-A** consists of **10 Multiple Choice Questions (MCQ)** of **1 mark** each.
- **Sec-B** consists of **10 Very Short Answer (VSA)** type questions of **1 mark** each.
- **Sec-C** consists of **6 Short Answer (SA I)** type I questions of **2 marks** each with 2 internal choice questions.
- **Sec-D** consists of **8 Short Answer (SA II)** type II questions of **3 marks** each with 3 internal choice questions.
- **Sec-E** consists of **6 Long Answer (LA)** type questions of **4 marks** each with 2 internal choice questions.
- **Steps/process** to be written in answers sheet for 2 marks, 3 marks and 4 marks questions
- Verify all the answers thoroughly before submission.

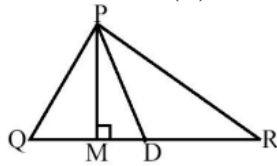
**SECTION-A (1m × 10 = 10m)**

**CHOOSE THE APPROPRIATE ANSWER FROM THE GIVEN OPTIONS:**

1. Which of the following rational numbers is the greatest?  
(a)  $|\frac{-3}{11}|$                       (b)  $|\frac{-9}{11}|$                       (c)  $|\frac{-11}{11}|$                       (d)  $|\frac{6}{11}|$
2. Which of the following is true for x, y, z as rational numbers?  
a)  $x \times (y \times z) = (x \times y) \times z$                       b)  $x \div y = y \div x$   
c)  $x - (y - z) = (x - y) - z$                       d) All of the above
3. By what number should  $-6/5$  be divided so that the result will be  $-36/35$ ?  
(a)  $\frac{-35}{30}$                       (b)  $\frac{-30}{35}$                       (c)  $\frac{7}{6}$                       (d)  $\frac{6}{7}$
4. If the ratio of CP and SP of an article is 5:6, what is the gain % ?  
(a) 15                      (b) 17                      (c) 20                      (d) 25
5. What percent of numbers from 1 to 20 are divisible by 5?  
(a) 10                      (b) 15                      (c) 20                      (d) 25
6. Which of the following is a solution of the equation  $3x - 7 = 7 - 4x$ ?  
(a)  $x = 0$                       (b)  $x = 14$                       (c)  $x = 2$                       (d)  $x = 1$
7. Choose the correct equation for "The number "y" divided by 8 gives 5."  
(a)  $y \div 8 = 5$                       (b)  $8 \div y = 5$                       (c)  $y - (8/5) = 0$                       (d)  $8y = 5$
8. The circumcenter of a right angled triangle lies at \_\_\_\_\_.  
(a) Midpoint of hypotenuse                      (b) At the vertex containing right angle  
(c) Exterior of the triangle                      (d) Interior of the triangle
9. In In which case it is possible to have a triangle with following sides?  
(a) 2cm, 3cm, 5cm                      (b) 3cm, 6cm, 7cm

(c) 6cm, 3cm, 2cm

(d) 3cm, 2cm, 1 cm



10. In  $\Delta PQR$ , PM is a/an

(a) median

(b) altitude

(c) bisector

(d) side

### SECTION-B (1m $\times$ 10 = 10m)

#### FILL IN THE BLANKS:

11. By selling an article of ₹475, Rahul lost 5%. The C.P of the article is \_\_\_\_\_

12. Thrice a number when increased by 5 gives 44. Find the number. \_\_\_\_\_

13. The value of k = \_\_\_\_ so that  $x=3$  is a solution of the equation  $kx + 8 = 11$

14. In \_\_\_\_\_ triangle, the orthocentre lies in the exterior of the triangle.

15. A/an \_\_\_\_\_ connects a vertex of a triangle to the midpoint of the opposite side.

#### WRITE ONLY THE ANSWER:

16. What is the length of the line segment joining - 2 and -8 on number line?

17. Write the reciprocal of  $\frac{1}{x}$ , where  $x \neq 0$ .

18. Find x if 40% of x(km) is 50 km.

19. Write the statement “If you add 3 to one-third of a number, you get 30” in the form of an equation.

20. How many acute angles can a right triangle have?

### SECTION-C (2m $\times$ 6 = 12m)

#### SOLVE THE FOLLOWING QUESTIONS:

21. Compare the following numbers.  $\frac{-5}{8}$ ,  $\frac{-3}{4}$

22. Verify  $x + y = y + x$  for  $x = 5$  and  $y = \frac{3}{2}$

OR

Find the sum of  $\frac{11}{8}$ ,  $\frac{5}{12}$  and  $\frac{7}{24}$

23. Divide:  $0.015 \div 3$

24. What percent of 1 hour 20 minutes is 20 minutes?

OR

An item was sold for Rs. 570 at a loss of 5%. What was its cost price?

25. The teacher tells the class that the highest mark obtained by a student in her class is twice the lowest marks plus 7. The highest score is 87. What is the lowest score?

26. Find the mean of first 5 odd prime numbers.

### SECTION-D (3m $\times$ 8 = 24m)

#### ANSWER THE FOLLOWING QUESTIONS:

27. Represent  $5\frac{1}{3}$  and  $\frac{-29}{4}$  on a number line.

28. Find the reciprocal of  $\frac{-2}{3} \times \frac{5}{7} + \left| \frac{-2}{9} \right| \div \frac{1}{3} \times \left| \frac{6}{7} \right|$

29. Evaluate:  $\frac{(0.2 \times 0.14) + (0.5 \times 0.91)}{(0.1 \times 0.2)}$

30. Simple interest on a sum of money at the end of 5 years is  $\frac{4}{5}$  of the sum itself. Find the rate per cent per annum.

31. Find  $x$ ,  $(x+2)(x+3) + (x-3)(x-2) - 2x(x+1) = 0$

**OR**

The length of a rectangular plot exceeds its breadth by 5 m. If the perimeter of the plot is 142m, find the dimensions of the plot.

32. The foot of the ladder is 6m away from a wall and its top reaches a window 8m above the ground. If the ladder is shifted in such a way that its foot is 8m away from the wall. At what height does the top reach?

**OR**

The exterior angle at C of a triangle ABC is equal to  $120^\circ$ . Find the measure of all the angles of the triangles if  $\angle A = 3\angle B$ . What type of triangle is this?

33. An exterior angle of a triangle is of measure  $113^\circ$  and one of its interior opposite angles is of measure  $25^\circ$ . Find the measure of the other interior opposite angle.

34. The mean of 9 observations was 35. Later on, it was discovered that 81 was misread as 18. Find the correct mean.

**OR**

The median of observations 11, 12, 14, 18,  $x$ ,  $x + 2$ , 25, 28, 30, 61 arranged in ascending order is 20. Find the value of  $x$ .

### **SECTION-E (4m × 6 = 24m)**

#### **SOLVE AND FIND A SOLUTION:**

35. Verify:  $x \div (y + z) \neq (x \div y) + (y \div z)$ . For the values of  $x = \frac{-5}{3}$ ,  $y = \frac{2}{7}$  and  $z = \frac{1}{-4}$

36. Express  $\frac{5}{11}$  as decimals by using long division method. Is the decimal number terminating or non-terminating?

37. Divide ₹10000 in two parts so that the simple interest on the first part for 4 years at 12 percent per annum may be equal to the simple interest on the second part for 4.5 years at 16 percent per annum.

38. Rameela is twice as old as Vikram. If 6 years is subtracted from Vikram's age and 4 years are added to Rameela's age. Rameela will be 4 times Vikram's age. How old were they 3 years ago?

**OR**

(b) Present age of Sunita's mother is four times Sunita's age. Five years hence, her age will be 21 years more than Sunita's age. Find their present ages.

39. O is a point in the exterior of triangle ABC. The prove the following:

(i)  $OA + OB > AB$

(ii)  $OB + OC > BC$

(iii)  $OC + OA > AC$

(iv)  $2(OA + OB + OC) > AB + BC + AC$

**OR**

In a triangle PQR, if  $3\angle P = 4\angle Q = 6\angle R$ . Calculate the measures of the angles of the triangle. What type of triangle is this?

**40.** In a public library, the following observations were recorded by the librarian in a particular week.

Year	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Newspaper readers	400	600	350	550	500	350
Magazine readers	150	100	200	300	250	200

(a) Draw a double bar graph to show the collected data

(b) On which day, the number of readers were maximum in the library?

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