

PT-2/HALF YEARLY EXAMINATION, 2022-23
MATHEMATICS

Time – 3 hrs.

Class – VIII

M.M. : 80

Date – 12.09.2022 (Monday)

Name of the student _____ Section _____

General Instructions -

- Questions 1 – 3 in Section A are Objective type questions.
- Question 1 and 2 carry 1 mark each.
- Question 3 consists of Very Short Answer Type Questions, each carrying 2 marks. Solve these questions **mentally** and write the answers.
- Question 4 – 17 in Section B are Subjective type questions.
- Question 4 – 9 are Short Answer Type Questions, each carrying 4 marks. Show the calculations and do the construction neatly. Do any 5 questions out of 6 questions in this part.
- Question 10 – 17 are Long Answer Type Questions, each carrying 5 marks. Show the calculations and do the construction neatly. Do any 6 questions out of 8 questions in this part.

Section-A (Objective type)

Q.1 Choose the correct option: (10x1=10)

1. On subtracting 30 from two times a number, we get 56. This statement in the form of an equation is
A. $2x - 30 = 56$ B. $2x + 30 = 56$ C. $30 - 2x = 56$ D. $\frac{30}{2x} = 56$.
2. $a(b + c) = ab + ac$ is called
A. commutative property B. associative property
C. distributive property D. none of these
3. If two angles are supplementary and one angle is double the other, then the larger angle is
A. 60° B. 90° C. 120° D. 180°
4. The number of sides of a regular polygon, whose each exterior angle has a measure of 45° , is
A. 4 B. 6 C. 8 D. 10
5. The number of digits in the square root of 27225 is
A. 1 B. 2 C. 3 D. 4
6. How many measurements can determine a quadrilateral uniquely?
A. 2 B. 3 C. 4 D. 5

7. The unit digit in the square of the number 1333 is
 A. 3 B. 6 C. 9 D. 1
8. Which of the following numbers is a perfect cube?
 A. 125 B. 36 C. 75 D. 100
9. The multiplicative inverse of 2^{-3} is
 A. 2 B. 3 C. -3 D. 2^3
10. 149600000000 is equal to
 A. 1.496×10^{11} B. 1.496×10^{10} C. 1.496×10^{12} D. 1.496×10^8

Q.2. Fill in the blanks: **(4x1=4)**

- a) The reciprocal of -5 is
- b) The opposite angles of a parallelogram are _____ .
- c) The diagonals of a square are _____ of each other.
- d) If the area of a square is 169 cm^2 , the length of side of the square is _____ .

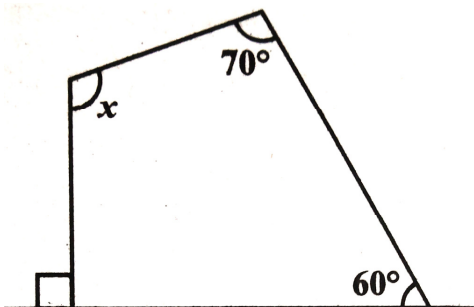
Q.3 Answer the following: **(8x2=16)**

- a) Write two such rational numbers whose multiplicative inverse is same as they are.
- b) If $\frac{2x}{3} = 18$, what is the value of x?
- c) Name the quadrilaterals that have four sides of equal length.
- d) What is the angle sum of a convex polygon with number of sides 8?
- e) Write a Pythagorean triplet whose smallest number is 8.
- f) What is the smallest number by which 81 must be divided to obtain a perfect cube?
- g) If $3^m \times 3^{-3} = 3^5$, what is the value of m?
- h) Evaluate $(2^0 + 4^0) \times 2^2$.

Section - B (Subjective type)

ATTEMPT ANY FIVE questions, from Question 4 to 9.

Q.4. Find the angle measure x in the following figure: **(4)**



Q.5. Find five rational numbers between $-\frac{3}{2}$ and $\frac{5}{3}$. (4)

Q.6. $8x + 4 = 3(x - 1) + 7$. (4)

Q.7 Construct a Rhombus BEND where BN = 5.6 cm and DE = 6.5 cm. (4)

Q.8 Find the smallest number by which 68600 must be multiplied to obtain a perfect cube. (4)

Q.9. Evaluate : $\left[\left(\frac{1}{2}\right)^2\right]^3 \times \left(\frac{1}{3}\right)^{-4} \times 3^{-2} \times \frac{1}{6}$ (4)

ATTEMPT ANY SIX questions, from Question 10 - 17.

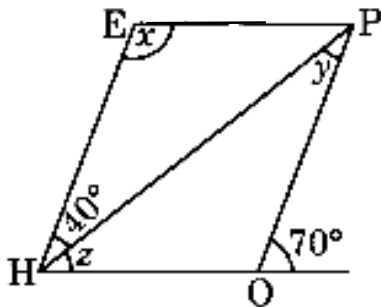
Q.10. Using appropriate properties find (5)

$$-\frac{2}{3} \times \frac{3}{5} + \frac{5}{2} - \frac{3}{5} \times \frac{1}{6}$$

Q.11 The sum of three consecutive multiples of 8 is 888. Find the multiples. (5)

Q.12. Shobo's mother's present age is six times Shobo's present age. Shobo's age five years from now will be one third of his mother's present age. What are their present ages? (5)

Q.13. The adjacent figure HOPE is a parallelogram. Find the angle measures x, y and z. State the properties you use to find them. (5)



Q14. Construct a Quadrilateral PLAN where PL = 4 cm, LA = 6.5 cm, $\angle P = 90^\circ$, $\angle A = 110^\circ$, $\angle N = 85^\circ$. (5)

Q15. Find the smallest square number that is divisible by each of the numbers 4, 9 and 10. (5)

Q.16 There are 500 children in a school. For a P.T. drill, they have to stand in such a manner that the number of rows is equal to the number of columns. How many children would be left out in this arrangement? (5)

Q17 Simplify : $\frac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$ (5)

