



**INDIAN SCHOOL DARSAIT**  
**HALF YEARLY EXAMINATION , SEPTEMBER 2019**  
**MATHEMATICS**



Class: VIII  
 Date: 15/09/2019

Max. Marks: 80  
 Time: 3 Hours

**General Instructions:**

- ❖ All questions are compulsory.
- ❖ The question paper consists of 40 questions divided into 4 sections- A, B, C and D. **Section A** consists of 20 questions of 1 mark each, **Section B** consists of 6 questions of 2marks each. **Section C** consists of 8 questions of 3marks each. **Section D** consists of 6 questions of 4 marks each.
- ❖ There is no overall choice in the question paper.
- ❖ Use of calculator is not permitted.

**SECTION A**

Question numbers 1 to 20 carry 1 mark.

**I Choose the correct answer from the choices given.**

1. The multiplicative inverse of  $\frac{-12}{5}$  is 1  
 A)  $\frac{-5}{12}$       B)  $\frac{5}{12}$       C)  $\frac{12}{5}$       D) 1
2. The solution of the equation  $4x - 2 = 10$  is 1  
 A) -3      B) 3      C) -2      D) 4
3. The measure of each exterior angle of a regular hexagon is 1  
 A)  $54^{\circ}$       B)  $72^{\circ}$       C)  $60^{\circ}$       D)  $70^{\circ}$
4. How many measures are required to construct a unique quadrilateral? 1  
 A) 3      B) 4      C) 5      D) 2
5. A number from 1 to 10 is chosen at random. The chance of choosing an even number is 1  
 A)  $\frac{2}{5}$       B)  $\frac{3}{10}$       C)  $\frac{7}{10}$       D)  $\frac{1}{2}$
6. The additive identity of the given number  $\frac{-56}{81}$  is 1  
 A) 1      B) -1      C)  $\frac{56}{81}$       D) 0
7. In the expression  $5x + 8 = -7$ , transposing 8 to RHS, we get : 1  
 A)  $5x = -7 + 8$   
 B)  $5x - 7 = 8$   
 C)  $5x = -7 - 8$   
 D) None of these
8. If the sum of interior angles of a polygon is  $360^{\circ}$ , then the number of sides is 1  
 A) 7      B) 4      C) 5      D) 8
9. When a die is rolled once, the probability of getting a prime number is 1

- A) 0      B)  $\frac{1}{2}$       C) 6      D) 1

10. Among the following numbers which one is equal to its reciprocal. 1  
 A) 5      B) 0      C)  $\frac{1}{2}$       D) -1

**II Fill in the blanks.**

11. The reciprocal of a negative rational number is \_\_\_\_\_ . 1  
 12. If  $2z - 1 = z + 3$  , then the value of z is \_\_\_\_\_ . 1  
 13. The sum of interior angles of a polygon with 8 sides is \_\_\_\_\_ . 1  
 14. From a deck of 52 playing cards , one card is chosen at random. The probability that it is a diamond card is \_\_\_\_\_ . 1  
 15. The sum of all the exterior angles of a polygon is \_\_\_\_\_ . 1

**III State TRUE or FALSE**

16. The sum of 7 and additive inverse of 7 is 7. 1  
 17. All parallelograms are trapeziums. 1  
 18. We can construct a quadrilateral with measures  $\angle A = 100^\circ$  ,  $\angle B = 150^\circ$   $\angle C = 160^\circ$  and  $\angle D = 90^\circ$  1  
 19. A number divided by two and added to twice the number gives -10 is represented by the linear equation  $\frac{x}{2} + 2x = -10$ . 1  
 20. Probability cannot be zero. 1

**SECTION B**

**Questions 21 to 26 carries 2 marks each**

21. The sum of two rational numbers is  $\frac{-5}{12}$  . If one of the numbers is  $\frac{8}{21}$  , find the other. 2  
 22. Solve for p : 2  
 $5(2p - 1) + 3(4p + 3) = 5(4p - 1)$   
 23. RENT is a rectangle. Its diagonals meet at O. Find x , if  $OR = 2x + 4$  and  $OT = 3x + 1$ . 2  
 24. The heights (in cm) of 22 students were recorded as under : 2  
 125, 132, 138, 144, 142, 136, 134, 125, 135, 130, 126, 132, 135, 142, 143, 128, 126, 136, 135, 130, 130, 133.  
 Prepare a frequency distribution table, taking equal class intervals and starting from 125 -130, 130 - 135 and so on.  
 25. A bag contains 5 white , 6 red and 4 green balls. One ball is drawn at random. What is the probability that the ball drawn is (i) red ? (ii) white ? (iii) non- green? 2  
 26. Construct a square with side of length 4 cm. 2

**SECTION C**  
**Questions 27 to 34 carries 3 marks**

27. i) Add  $\frac{-1}{6}$  by the reciprocal of  $\frac{3}{16}$  3

ii) Multiply  $\frac{-2}{5}$  by the additive inverse of  $\frac{15}{16}$

28. Name the property used : 3

i)  $\frac{-3}{5} \times \frac{2}{5} + \frac{-7}{12} \times \frac{-3}{5} = \frac{-3}{5} \left[ \frac{2}{5} + \frac{-7}{12} \right]$

ii)  $\frac{-3}{5} + \frac{7}{5} = \frac{7}{5} + \frac{-3}{5}$

iii)  $\frac{4}{5} \times \left( \frac{1}{5} \times \frac{3}{5} \right) = \left( \frac{4}{5} \times \frac{1}{5} \right) \times \frac{3}{5}$

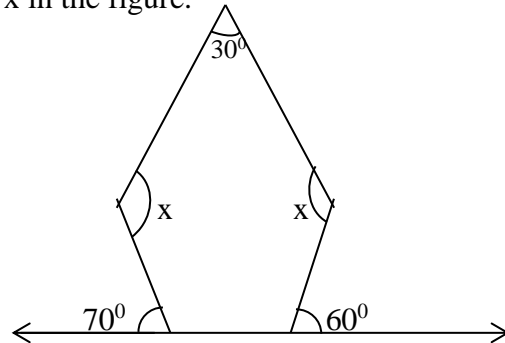
29. Solve i)  $8x + 3 - 3(x - 1) = x - 2$  3

ii)  $\frac{3y + 4}{2 - 6y} = \frac{-2}{5}$

30. The sum three consecutive multiples of 8 is 888. Find the multiples. 3

31. The adjacent sides of a parallelogram are in the ratio 3 : 7 and the perimeter is 100cm. Find the sides of the parallelogram. 3

32. Find the angle measure x in the figure. 3



33. Construct a quadrilateral MORE in which  $MO = 6\text{cm}$ ,  $OR = 4.5\text{cm}$ ,  $\angle M = 60^\circ$ ,  $\angle O = 105^\circ$  and  $\angle R = 105^\circ$  3

34. Given below is a table which shows the year wise strength of a school. 3

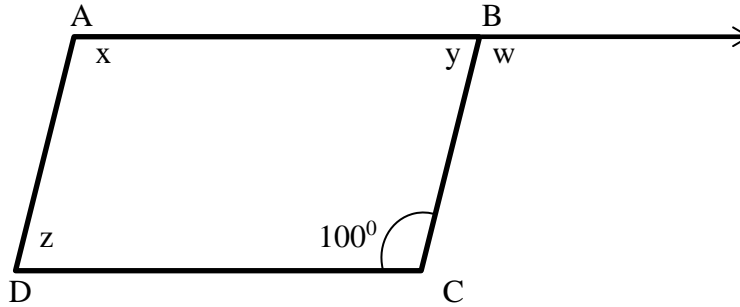
Year	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
No. of students	800	975	1100	1400	1625

Represent the above data by a histogram

**SECTION D**

**Questions 35 to 40 carries 4 marks**

35. Using appropriate properties find  $\frac{-2}{3} \times \frac{3}{5} + \frac{5}{2} - \frac{1}{6} \times \frac{3}{5}$  4
36. Solve  $\frac{3t-2}{4} - \frac{2t+3}{3} = \frac{2}{3} - t$  4
37. The ages of Hari and Harry are in the ratio 5:7 . Four years from now the ratio of their ages will be 3:4.Find their present ages. 4
38. Construct a rhombus whose diagonals are 6 cm and 7.2 cm long. 4
39. Find the angle measures x , y , z and w in parallelogram ABCD. 4



40. The choice of food for a group of people is given below. Represent the data by a pie chart. 4

Favourite food	North Indian	South Indian	Chinese	Others	Total
No. of people	30	40	25	25	120

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