



**FACULTY HIGHER SECONDARY SCHOOL**  
**SAMPLE PAPER- 2019-20**  
**CLASS - VIII**  
**SUB- MATHEMATICS**  
**MARKS -50**

**General Instruction:**

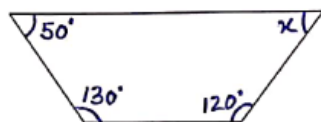
- 1) This question paper consist of 27 question
- 2) Q.No 1 to 15 carry 1 mark each (Section A)
- 3) Q.No 16 to 19 carry 2 marks each (Section B)
- 4) Q.No 20 to 24 carry 3 marks each (Section C)
- 5) Q. No 25 to 27 carry 4 marks each (Section D)

**SECTION A**

1. Additive inverse of  $-\frac{5}{9}$  is  
 (a)  $-\frac{9}{5}$  (b) 0 (c)  $\frac{5}{9}$  (d)  $\frac{9}{5}$
2. Multiplicative inverse of  $-\frac{3}{4}$  is  
 (a)  $\frac{4}{3}$  (b)  $\frac{3}{4}$  (c)  $-\frac{4}{3}$  (d) 0
3. If  $2x-3= x+2$ , then  $x=?$   
 (a) 1 (b) 3 (c) 5 (d) 7
4. How many diagonals are there in a pentagon?  
 (a) 5 (b) 7 (c) 6 (d) 10
5. The diagonal do not necessarily intersect at right angle in a  
 (a) Parallelogram (b) rectangle (c) rhombus (d) kite
6. Represent  $\frac{3}{4}$  on the number line
7. Subtract  $\frac{-5}{7}$  from  $\frac{-2}{5}$
8. Solve:  $\frac{2x}{3} = 18$
9. What is a regular polygon?
10. Find the number of sides of a regular polygon who's each exterior angle has a measure of  $45^\circ$ ?
11. Name the quadrilateral whose diagonal are equal.
12. Check whether  $2\frac{1}{3}$  is the multiplicative inverse of 2.2
13. Name the polygon which has 6 equal sides.
14. Which element is known as additive identity?
15. The three consecutive integers added up to 74 from the linear equation

**SECTION B**

16. Find four rational numbers between  $\frac{2}{3}$  and  $\frac{4}{5}$
17. Simplify  $\frac{-5}{2} + \frac{7}{4} - \frac{11}{4}$
18. Two number in the ratio 5:3. If they differ by 18. What are the numbers?
19. Find the value of x:



**SECTION C**

20. Using appropriate properties find

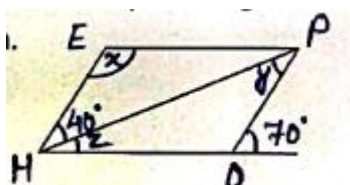
$$\frac{-2}{3}x \frac{3}{5} + \frac{5}{2} - \frac{3}{5}x \frac{1}{6}$$

21. Solve the equation and verify it:

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

22. Aman's age is three times his son's age. Ten years ago he was five times his son's age. Find their present age.

23. The adjacent figure HOPE is a parallelogram. Find the angle measure x,y,z. State the properties you use to find them.



24. Construct the quadrilateral LIFT: LI=4cm, IF=3cm, TL=2.5cm, LF=4.5, IT=4cm

**SECTION D**

25. The digit of a two digit number differ by 3. If the digits are interchanged and the resulting number is added to the original number we get 143. Find the original number.

26. Prove that the sum of the angles of a quadrilateral is  $360^\circ$

27. Construct the Quadrilateral PALN : PL=4cm, LA=6.5cm,  $\angle P = 90^\circ$ ,  $\angle A = 110^\circ$ ,  $\angle N = 65^\circ$

## CLASS -VIII

**ANSWER****SECTION A**

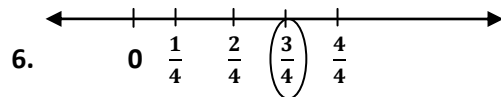
1. c)  $\frac{5}{9}$

2. c)  $-\frac{4}{3}$

3. c) 5

4. a) 5

5 ) Parallelogram



$$7. \frac{11}{25} \left[ \frac{-2}{5} - \frac{-5}{7} \right]$$

$$= \frac{-2}{5} + \frac{5}{7}$$

$$= \frac{-14+25}{35} = \frac{11}{35}$$

$$8. \frac{2x}{3} = 18$$

$$2x = 18 \times 3$$

$$x = \frac{\cancel{18}^9 \times 3}{\cancel{2}_1}$$

9. A polygon is said to be regular if it's all sides and all angles are equal.

10. Exterior angle =  $45^\circ$ 

$$\text{Number of side of a regular polygon} = \frac{360}{45} = 8$$

11. Square.

$$12. 2\frac{1}{3} = \frac{7}{3}$$

$$= \frac{7}{3} \times 2.2$$

$$= \frac{7}{3} \times \frac{\cancel{22}^{11}}{\cancel{10}_5}$$

$$= \frac{77}{15}$$

Since the product is not 1

 $2\frac{1}{3}$  is not the multiplicative inverse 2.2

13. Regular Hexagon

14. '0'

15. Let the three consecutive integer be x, x+1, x+2

A/Q

$$x+x+1+x+2 = 74$$

$$3x + 3 = 74$$

**SECTION-B**

$$16. \frac{2}{3} = \frac{2 \times 5}{3 \times 5} = \frac{10 \times 5}{15 \times 5} = \frac{50}{75}$$

$$\frac{4}{5} = \frac{4 \times 3}{5 \times 3} = \frac{12 \times 5}{15 \times 5} = \frac{60}{75}$$

The four rational numbers are  $\frac{51}{75}, \frac{52}{75}, \frac{53}{75}, \frac{54}{75}$

$$17. \frac{-5}{2} + \frac{7}{4} - \frac{11}{4}$$

$$= \frac{-10+7-11}{4}$$

$$= \frac{-3-11}{4}$$

$$= \frac{-14}{4}$$

$$= \frac{-7}{2}$$

18. Let the numbers be  $5x$  and  $3x$

A/Q

$$5x - 3x = 18$$

$$2x = 18$$

$$x = 9$$

The numbers are 45 and 27

19. Sum of the angles of a quadrilateral is 360

$$50+130+120+x = 360$$

$$300+x = 360$$

$$x = 360-300$$

$$= 60$$

**SECTION- C**

$$20 \frac{-2}{3} \times \frac{3}{5} + \frac{5}{2} - \frac{3}{5} \times \frac{1}{6}$$

$$= \frac{3}{5} \left[ -\frac{2}{3} - \frac{1}{6} \right] + \frac{5}{2}$$

[By distributivity]

$$= \frac{3}{5} \left[ \frac{-4-1}{6} \right] + \frac{5}{2}$$

$$= \frac{3}{5} \left[ \frac{-5^{-1}}{6_2} \right] + \frac{5}{2}$$

$$= \frac{-1}{2} + \frac{5}{2}$$

$$= \frac{-1+5}{2}$$

$$= \frac{4}{2}$$

$$= 2$$

$$21. \quad 8x + 4 = 3(x-1) + 7$$

$$8x + 4 = 3x - 3 + 7$$

$$8x - 3x = 4 - 4$$

$$5x = 0$$

$$x = 0$$

$$\begin{aligned} \text{Verification : LHS} &= 8x + 4 \\ &= 8(0) + 4 \\ &= 0 + 4 \\ &= 4 \end{aligned}$$

$$\begin{aligned} \text{RHS} &= 3(0-1) + 7 \\ &= -3 + 7 \\ &= 4 \end{aligned}$$

22. Let the age of Aman's Son be  $x$  years  
 And the age of Aman be  $3x$  years  
 Ten years ago Aman's age =  $3x - 10$   
 Ten years ago Aman's son age =  $x - 10$

A/Q

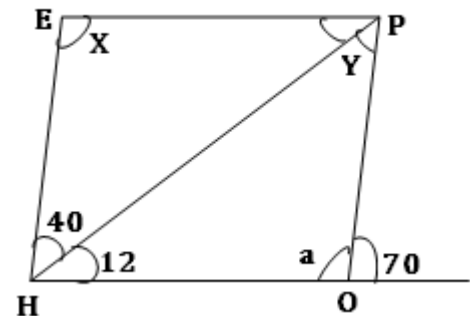
$$\begin{aligned} 3x - 10 &= 5(x - 10) \\ 3x - 10 &= 5x - 50 \\ 3x - 5x &= -50 + 10 \\ -2x &= -40 \\ x &= \frac{40}{2} \\ &= 20 \end{aligned}$$

The age of Aman's son = 20 years  
 The age of Aman =  $3 \times 20 = 60$  years

23. In parallelogram HOPE  
 Let interior angle of 'O' be  $a$   
 $70 + a = 180$  (linear pair)  
 $a = 110$   
 $x = a$  (opposite angle of parallelogram)  
 $x = 110$   
 $y = 40$  (alternate angle)

Now, In  $\triangle HOP$

$$\begin{aligned} a + y + z &= 180^\circ \text{ (Angle sum property)} \\ 110 + 40 + z &= 180 \\ z &= 180 - 150^\circ \\ z &= 30^\circ \end{aligned}$$



## 24. Construction

SECTION D

25. Let the digit in the unit place be  $x$   
 And the digit in the tens place be  $(x+3)$   
 The original number  $= (x+3)10+x$   
 $= 10x + 30 + x$   
 $= 11x + 30$
- When are inter change the digit  
 The new number will be  $= 10 \times x + (x+3)$   
 $= 11x + 3$

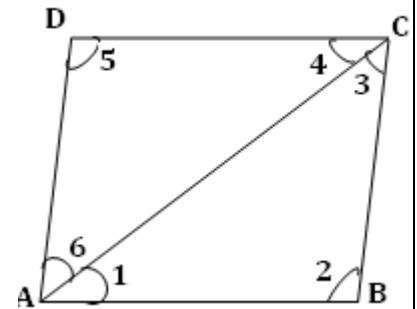
A/Q

$$\begin{array}{r} 11x + 30 + 11x + 3 = 143 \\ 22x = 143 \\ 22x = 110 \\ x = \frac{110}{22} \\ x = 5 \end{array}$$

$$\text{The original number} = 11(5) + 30 = 55 + 30 = 85$$

26. Let us consider a quadrilateral ABCD  
To prove :  $\angle A + \angle B + \angle C + \angle D = 360^\circ$   
Construction :- Joined AC, Which divided  
 the quadrilateral into two  
 $\triangle ABC$  and  $\triangle ADC$

$$\angle A = \angle 1 + \angle 6, \angle B = \angle 2, \angle C = \angle 3 + \angle 4, \angle D = \angle 5$$



**Proof:** In  $\triangle ABC$ ,

$$\angle 1 + \angle 2 + \angle 3 = 180^\circ \text{ (Angle sum property) ---- (1)}$$

In  $\triangle ADC$ ,

$$\angle 6 + \angle 5 + \angle 4 = 180^\circ \text{ (Angle sum property) ---- (2)}$$

(1) + (2)

$$\angle 1 + \angle 2 + \angle 3 + \angle 6 + \angle 5 + \angle 4 = 180 + 180$$

$$(\angle 1 + \angle 6) + \angle 2 + (\angle 3 + \angle 4) + \angle 5 = 360$$

$$\angle A + \angle B + \angle C + \angle D = 360$$

