

PVG's  
**Muktangan English School & Jr. College, Pune - 9**

**Unit Test I (2024-25)**  
**Standard - IX**

**Subject - Mathematics (Part - I)**  
**Date - 9/8/2024**

**Marks - 20**  
**Time - 9.30 a.m. to 10.45 a.m.**

**Q.I (A) Select the appropriate alternative to answer the following. (2)**

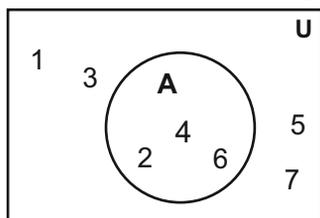
- 1) Which of the following set represent  $N \cap W$  ?  
 (A)  $\{1, 2, 3, \dots\}$       (B)  $\{0, 1, 2, 3, \dots\}$       (C)  $\{0\}$       (D)  $\{ \}$
  
- 2) Every point on the number line represent the .....  
 (A) Natural number      (B) Irrational number  
 (C) Rational number      (D) Real number

**Q.I (B) Attempt the following sub questions. (2)**

- 1) Write the following number in decimal form :  $\frac{5}{9}$
- 2) Write the following set in listing method :  
 $A = \{x \mid x \text{ is a letter from the word 'REPEAT'}\}$

**Q. II (A) Attempt any one of the following activity. (2)**

- 1) Observe the Venn diagram and write set A and set A' in listing method.



**Solution :**

$A = \{ \text{ } \}$

$A' = \{ \text{ } \}$

- 2) Complete the table by classifying the given numbers as rational and irrational numbers.

0.32	.....
$0.27\overline{46}$	.....
3.1415....	.....
0.1010011....	.....

**Q. II (B) Attempt any two of the following subquestions. (4)**

- 1) Write the union and intersection of given sets.  
 $A = \{6, 7, 8, 9, 10\}$   
 $B = \{2, 6, 10, 14, 18\}$
- 2) Write the following sets in set builder method.
  - (i)  $P = \{4, 8, 12, 16, 20, 24, 28, 32\}$
  - (ii)  $T = \{-10, +10\}$
- 3) Write any four rational numbers between 3.6 and 3.7.

**Q. III (A) Attempt any one of the following activity. (3)**

- 1) If  $n(A) = 20$ ,  $n(A \cup B) = 35$ ,  $n(A \cap B) = 8$ , then find  $n(B) = ?$

Solution : We know,

$$\begin{aligned} n(A \cup B) &= n(A) + \boxed{\phantom{00}} - \boxed{\phantom{00}} \\ &= 20 + \boxed{\phantom{00}} - \boxed{\phantom{00}} \end{aligned}$$

After solving

$$\therefore n(B) = \boxed{\phantom{00}}$$

- 2) Complete the following table.

Sr. No.	Rational number	Decimal form
1.	$\frac{3}{5}$	<input type="text"/>
2.	<input type="text"/>	1.57
3.	$\frac{17}{8}$	<input type="text"/>

**(B) Attempt any one of the following subquestions. (3)**

- 1) Express  $17.\overline{89}$  in  $\frac{p}{q}$  form.
- 2) Draw Venn diagram to represent the following sets. Also write set  $(A \cup B)'$  and shade the part showing  $A \cap B$ .  
 $U = \{a, b, c, d, e, f, g, i, o\}$   
 $A = \{a, b, c, d, e\}$   
 $B = \{d, e, f, g\}$

**Q.IV Answer any one of the following subquestions. (4)**

- 1) 110 students choose their favourite colour from blue and pink. Every student has to choose at least one of the colours. 60 children choose blue colour and 70 choose pink. How many students choose both the colours as their favourite colour?
- 2) Represent  $\sqrt{10}$  on a number line and justify.

