

## Class 9 Maths Ch1 No. Sys. Test

**Q1.** Which of the following is **not** a prime number:

- (a) 3                      (b) 2  
(c) 7                      (d) 9

**Q2.** Which of the following is **not** a composite number:

- (a) 2                      (b) 4  
(c) 8                      (d) 15

**Q3.**  $1.\bar{3}$  is equal to:

- (a)  $\frac{2}{3}$                       (b)  $\frac{4}{3}$   
(c)  $\frac{3}{4}$                       (d)  $\frac{2}{5}$

**Q4** If  $a = \sqrt{1 + \sqrt{2}}$ , then  $a^2 - 7$  is

- (a) 0   (b) rational no.   (c) integer   (d) irrational no.

**Q5** Simplify  $\left[(256)^{1/2}\right]^{3/2}$

**Q6** Find three rational numbers between 3 and 4

**Q7.** Express  $0.\overline{298}$  in the form of  $p/q$ .

**Q8.** Check whether it is rational or irrational:  $(3\sqrt{5} + 2)(2\sqrt{5} + 3)$

**class 9<sup>th</sup> maths ch 1 number systems**

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**Ans 1 (d) 9**

**Ans 2 (a) 2**

**Ans 3 (b)  $\frac{4}{3}$**

**( let  $x = 1.\overline{3}$   
-  $10x = 13.3$**

$$\mathbf{9x = 12}$$

$$\mathbf{x = \frac{12}{9}}$$

$$\mathbf{x = \frac{4}{3} )}$$

**Ans 4 (d) Irrational**

$$\mathbf{( a = 1 + \sqrt{2}$$

$$\mathbf{a^2 = (1 + \sqrt{2})^2}$$

$$\mathbf{= 1 + 2 + 2\sqrt{2}}$$

$$\mathbf{a^2 - 7 = 3 + 2\sqrt{2} - 7}$$

$$\mathbf{= (2\sqrt{2} - 4) \text{ (irrational)}}$$

**Ans 5  $((256)^{1/2})^{\frac{3}{2}}$**

$$\mathbf{= 16^{2 \times \frac{1}{2} \times \frac{3}{2}}}$$

$$\mathbf{= 4^{2 \times \frac{3}{2}} = 4^3 = 64 \text{ Ans}}$$

**Ans 6 3 rational nos between 3 and 4 :**

**Here N = 3, N+1 = 3+1 = 4**

$$3 \times \frac{4}{4} \dots\dots\dots 4 \times \frac{4}{4}$$

$$12/4 \dots\dots\dots 16/4$$

**So required nos are 13/4 , 14/4 , 15/4 Ans**

**Ans 7 Express  $0.2\overline{98}$  in the form of  $p/q$**

$$\text{Let } x = 0.2\overline{98}$$

$$10x = 2.\overline{98}$$

$$1000x = 298.\overline{98}$$

$$\text{Subtract } 1000x - 10x = 298.\overline{98} - 2.\overline{98}$$

$$990x = 296$$

$$x = \frac{296}{990}$$

$$x = \frac{148}{495} \quad \text{Ans}$$

**Ans 8 rational or irrational**       $(3\sqrt{5} + 2)(2\sqrt{5} + 3)$

$$= 3\sqrt{5}(2\sqrt{5} + 3) + 2(2\sqrt{5} + 3)$$

$$= 3\sqrt{5} \times 2\sqrt{5} + 3\sqrt{5} \times 3 + 2 \times 2\sqrt{5} + 2 \times 3$$

$$= 30 + 9\sqrt{5} + 4\sqrt{5} + 6$$

$$= 36 + 13\sqrt{5} \text{ (It is irrational) Ans.}$$