

OBJECTIVE TYPE QUESTIONS

CHOOSE THE CORRECT ONE

1. $\sqrt{2}$ is -
 (A) an integer (B) A rational number
 (C) An irrational number (D) None of these
2. $\frac{1}{\sqrt{3}}$ is -
 (A) A rational number (B) An irrational number
 (C) A whole number (D) None of these
3. $7\sqrt{3}$ is -
 (A) An irrational (B) A natural number
 (C) A rational number (D) None of these
4. $5 - \sqrt{3}$ is -
 (A) An integer (B) A rational number
 (C) An irrational number (D) None of these
5. $\pi = \frac{\text{Circumference of the circle}}{\text{Diameter of the circle}}$
 (A) A rational number (B) A whole number
 (C) A positive interger (D) None of these
6. HCF (p,q) LCM (p,q) =
 (A) $p + q$ (B) $\frac{p}{q}$ (C) $p \cdot q$ (D) p^q
7. HCF (p,q,r) LCM (p,q,r) =
 (A) $\frac{pq}{r}$ (B) $\frac{qr}{p}$ (C) p,q,r (D) None of these
8. If $\sqrt[3]{32} = 2^x$ then x is equal to
 (A) 5 (B) 3 (C) $\frac{3}{5}$ (D) $\frac{5}{3}$
9. $0.737373\dots =$
 (A) $(0.73)^3$ (B) $\frac{73}{100}$ (C) $\frac{73}{99}$ (D) None of these
10. If p is a positive prime integer, then \sqrt{p} is -
 (A) A rational number
 (B) An irrational number
 (C) A positive integer
 (D) None of these
11. LCM of three numbers 28, 44, 132 is -
 (A) 528 (B) 231 (C) 462 (D) 924
12. If a is a positive integer and p be a prime number and p divides a^2 , then
 (A) a divides p (B) p divides a
 (C) p^2 divides a (D) None of these

13. Evaluate $\sqrt[3]{\left(\frac{1}{64}\right)^{-2}}$
- (A) 4 (B) 16 (C) 32 (D) 64
14. If $a = \frac{2+\sqrt{3}}{2-\sqrt{3}}$, $b = \frac{2-\sqrt{3}}{2+\sqrt{3}}$ then the value of $a + b$ is -
- (A) 14 (B) - 14 (C) $8\sqrt{3}$ (D) $-\sqrt{3}$
15. If $x = 0.\overline{16}$, then $3x$ is -
- (A) $0.\overline{48}$ (B) $0.\overline{49}$ (C) $0.\overline{5}$ (D) 0.5
16. Find the value of x then $\left(\frac{3}{5}\right)^{2x-3} = \left(\frac{5}{3}\right)^{x-3}$
- (A) $x = 2$ (B) $x = -2$ (C) $x = 1$ (D) $x = -1$
17. $1.\overline{3}$ is equal to -
- (A) $3/4$ (B) $2/3$ (C) $4/3$ (D) $2/5$
18. The product of $4\sqrt{6}$ and $3\sqrt{24}$ is -
- (A) 124 (B) 134 (C) 144 (D) 154
19. If $x = (7 + 4\sqrt{3})$, then the value of $x^2 + \frac{1}{x^2}$ is -
- (A) 193 (B) 194 (C) 195 (D) 196
20. If $16 \cdot 8^{n+2} = 2^m$, then m is equal to -
- (A) $n + 8$ (B) $2n + 10$ (C) $3n + 2$ (D) $3n + 10$

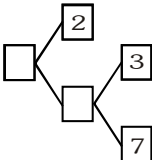
OBJECTIVE					ANSWER KEY					EXERCISE -1					
Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	C	B	A	C	D	C	D	D	C	B	D	B	B	B	A
Que.	16	17	18	19	20										
Ans.	A	C	C	B	D										

EXERCISE-3

(FOR SCHOOL/BOARD EXAMS)

PREVIOUS YEARS BOARD (CBSE) QUESTIONS

QUESTIONS CARRYING 1 MARK

- If $\frac{p}{q}$ is a rational number ($q \neq 0$), what is condition of q so that the decimal representation of $\frac{p}{q}$ is terminating? [Delhi-2008]
- Write a rational number between $\sqrt{2}$ and $\sqrt{3}$. [AI-2008]
- Complete the missing entries in the following factor tree :  [Foreign-2008]
- The decimal expansion of the rational number $\frac{43}{2^4 5^3}$, will terminate after how many places of decimals? [Delhi-2009]
- Find the [HCF LCM] for the numbers 100 and 190. [AI-2009]
- Find the [HCF LCM] for the numbers 105 and 120. [AI-2009]
- Write whether the rational number $\frac{51}{1500}$ will have a terminating decimal expansion or a non-terminating repeating decimal expansion. [Foreign-2009]
- The HCF and LCM of two numbers are 9 and 360 respectively. If one number is 45, write the other number. [Foreign-2009]

QUESTIONS CARRYING 3 MARKS

- Show that $5 - 2\sqrt{3}$ is an irrational number. [Delhi-2008]
- Show that $2 - \sqrt{3}$ is an irrational number. [Delhi-2008]
- Show that $5 + 3\sqrt{2}$ is an irrational number. [Delhi-2008]
- Prove that $\sqrt{3}$ is an irrational number. [Delhi -2009/AI-2008]
- Use Euclid's Division Lemma to show that the square of any positive integer is either of the form $3m$ or $3m + 1$ for some integer m . [Foreign-2008/AI-2008]
- Prove that $\sqrt{2}$ is an irrational number. [Delhi-2009/AI-2008]
- Prove that $\sqrt{5}$ is an irrational number. [Delhi-2009/AI-2008]
- Prove that $3 + \sqrt{2}$ is an irrational number. [AI-2009]
- Prove that $5 - 2\sqrt{3}$ is an irrational number. [AI-2008]
- Prove that $3 + 5\sqrt{2}$ is an irrational number. [AI-2009]
- Show that the square of any positive odd integers is of the form $8m + 1$, for some integer m . [Foreign-2009]
- Prove that $7 + 3\sqrt{2}$ is not a rational number. [Foreign-2009]

REAL NUMBERS

ANSWER KEY

EXERCISE-3 (X)-CBSE

1. $q = 2^n 5^m$, where n and m are whole numbers.

2. $\sqrt{2} = 1.41\dots\dots$, $\sqrt{3} = 1.73\dots\dots$

\therefore One rational no. between $\sqrt{2}$ and $\sqrt{3}$ is 1.5.

4. After 4 decimal; $\frac{43}{2^4 5^3} = \frac{43}{2000} = 0.0215$

5. HCF LCM = 100 190 = 19000

6. HCF LCM = 105 120 = 12600

7. $\frac{51}{1500} = \frac{17}{500}$; $500 = 2^2 5^3$ ($2^m 5^n$). So, it has terminating expansion. 8. Other number = $\frac{9 \times 360}{45} = 72$

