INDIAN SCHOOL AL WADI AL KABIR
Dept. of Mathematics 2023 – 2024
Class X – Real Numbers (WS3)

1	If two positive integers a and b are written as $a = x^4y^2$ and $b = x^2y^3$, where x and y are prime numbers, then LCM (a, b) is (a) x^8y^6 (b) x^6y^5 (c) x^4y^3 (d) None of these
2	The prime factorisation of 2475 is (a) $3^2 \times 5 \times 11$ (b) $3^1 \times 5^2 \times 11$ (c) $3^2 \times 5^2 \times 11$ (d) None of these
3	Two natural numbers whose difference is 66 and the LCM is 360, are (a) 180 and 114 (b) 90 and 24 (c) 120 and 54 (d) 130 and 64
4	The HCF and LCM of the smallest composite number and the smallest prime number are respectively. (a) 2 and 2 (b) 2 and 4 (c) 4 and 4 (d) 8 and 4
5	If HCF of two numbers is 4 and their product is 160, then their LCM is (a) 40 (b) 60 (c) 80 (d) 120
6	If LCM $= (32, a) = 64$ and HCF $(32, a) = 4$, then a is equal to (a) 16 (b) 8 (c) 20 (d) 10
7	Three bells rings at intervals 5, 3 and 15 min. All three rang at 10 am. When will they ring together again? (a) 10 : 10 am (b) 10 : 15 am (c) 10 : 20 am (d) None of these
8	The smallest number by which $\frac{1}{17}$ should be multiplied so that its decimal expansion terminator after one decimal place is (a) $\frac{17}{100}$ (b) $\frac{17}{10}$ (c) $\frac{100}{17}$ (d) $\frac{10}{17}$

9	The ratio of LCM and HCF of second smallest prime number and second smallest composite number is (a) 2 : 5 (b) 2 : 1 (c) 1 : 2 (d) 5 : 2
10	Find the least number that is divisible by all the numbers from 3 to 7 (both inclusive). (a) 400 (b) 410 (c) 420 (d) 430
11	If $x^2 = 1 + \frac{2}{36} + \frac{5}{6}$, then x is (a) irrational (b) rational (c) whole number (d) integer
12	Prime factors of the denominator of a rational number with the decimal expansion 62.47 are (a) 2 and 35 (b) 2 and 5 (c) 3 and 5 (d) 4 and 5
13	The decimal expansion of the rational number $\frac{53}{2^3 \times 5}$, will terminate after how many places of decimal? (a) 1 (b) 3 (c) 4 (d) 2
14	The decimal number of $\left(\frac{21}{8} + \frac{7}{40}\right)$ will terminate after how many places? (a) 2 (b) 1 (c) 3 (d) 4
15	What smallest number must be multiplied in the denominator so that the decimal number $\frac{14588}{625}$ will be terminated? (a) 4 (b) 18 (c) 16 (d) 20
16	If the LCM of two prime number a and b $(a > b)$ is 253, then the value of $8b - 3a$ is (a) 16 (b) 17 (c) 19 (d) 18

17	The sum of two numbers is 528 and their HCF is 33, then the number of pairs satisfying the given condition is (a) 5 (b) 3 (c) 4 (d) 2
18.	A sweet seller has 420 kaju burfis and 130 badam burfis she wants to stack them in such a way that each stack has the same number, and they take up the least area of the tray. What is the number of burfis that can be placed in each stack for this purpose?
19.	In a morning walk, three persons step off together. Their steps measure 80 cm, 85 cm and 90 cm respectively. What is the minimum distance each should walk so that all can cover the same distance in complete steps?
20.	The traffic lights at three different road crossings change after every 48 seconds, 72 seconds and 108 seconds respectively. If they change simultaneously at 7 a.m., at what time will they change simultaneously again?
21.	Three tankers contain 403 litres, 434 litres and 465 litres of diesel respectively. Find the maximum capacity of a container that can measure the diesel of the three containers exact number of times.
22.	In a seminar, the number, the number of participants in Hindi, English and Mathematics are 60, 84 and 108, respectively. Find the minimum number of rooms required if in each room the same number of participants are to be seated and all of them being in the same subject.
23	Prove that $5-2\sqrt{3}$ is an irrational number.
24.	Prove that $\frac{2\sqrt{3}}{5}$ is an irrational number.
25.	Prove that $\sqrt{3}+\sqrt{5}$ is an irrational number.

Answers

1	C
4	B
7	B
10	C
13	B
16	C
19	12240
22	12

2	C
5	A
8	B
11	A
14	B
17	C
20	432

3	B
6	B
9	B
12	B
15	C
18	10
21	31