

Lesson Based Assessment Test

Chapter : Real Numbers

Marks : 20

Subject : **Mathematics**

Time : 40 Minutes

General Instructions :

-  This question paper has a total of 11 questions; questions have been selected and prepared from the comprehensive question bank of lesson-based assessment.
-  Any missing data may be suitably assumed and follow the instructions given for the questions.
-  No space is provided for rough work in this question paper.
-  The time allotted for answering the question paper is given at the top of the question paper and the numbers given on the right side indicate the full marks for the questions.

- I. For each of the following questions/incomplete statements, four alternatives are given. Only one of them is correct or most appropriate. Choose the correct alternative and write the complete answer with its letter.** **3 × 1 = 3**

1. Two numbers are in the form $8m$ and $12m$. If their H.C.F is 20, then $m =$

- (A) 2 (B) 3 (C) 4 (D) 5

2. $5 - \sqrt{3}$ is a/an

- (A) Irrational number (B) Rational number
(C) Composite number (D) Prime number

3. If $180 = 2^x \times 3^2 \times 5$ then the value of x is,

- (A) 1 (B) 2 (C) 3 (D) 4

- II. Answer the following questions.**

3 × 1 = 3

4. State the fundamental theorem of arithmetic.

5. Write the number which has only 7 and 3 as its prime factors.

6. If $a = 2^4 \times 3^2$ and $b = 2^3 \times 3^5$, then write the power of 3 in the H.C.F of a and b.

III. Answer the following questions. **$2 \times 2 = 4$**

7. There is a circular path around a sports field. A takes 18 minutes to drive one round of the field, while B takes 24 minutes for the same. Suppose they both start at the same point and at the same time, and go in the same direction, after how many minutes will they meet again at the starting point ?
8. Prove that $\sqrt{75}$ is an irrational number.

IV. Answer the following questions. **$2 \times 3 = 6$**

9. A sweet seller has 420 kaju barfi's and 130 badam barfi's. She wants to stack them in such a way that each stack has the same number of barfi's, and they take up the least area of the tray. What is the number of barfi's that can be placed in each stack for this purpose ?
10. If the product of two numbers is 7056 and H.C.F is 14, find the L.C.M.

V. Answer the following questions. **$1 \times 4 = 4$**

11. $a = 2^x \times 3^3 \times 5$ and $b = 2^4 \times 3^y \times 7$. If their L.C.M is $2^5 \times 3^4 \times 5 \times 7$ and H.C.F is $2^3 \times 3^2$, find x and y .
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