

Ch-1 Real Numbers

1. The LCM and HCF of two numbers are 240 and 12 respectively. If one of the numbers is 60, then find the other number.
2. Without actually performing the long-division, state $\frac{129}{2^2 \cdot 5^3}$ will have a terminating or non-terminating repeating decimal expansion.
3. Write whether the rational number $\frac{51}{1500}$ will have a terminating or a non-terminating repeating decimal expansion.
4. The HCF and LCM of two numbers are 9 and 360 respectively. If one number is 45, write the other number.
5. What is the HCF of 52 and 130?
6. Express $0.\overline{6}$ as a rational number in the simplest form.
7. Prove that $(5 + 3\sqrt{2})$ is an irrational number.
8. Show that $2 + \sqrt{3}$ is an irrational number.
9. If $\text{HCF}(6, a) = 2$ and $\text{LCM}(6, a) = 60$, then find a .
10. Find the greatest number of 5 digits exactly divisible by 12, 15 and 36.
11. Find the smallest number which when increased by 20 is exactly divisible by 90 and 144.
12. Has the rational number $\frac{441}{2^2 \cdot 5^7 \cdot 7^2}$ a terminating or a non-terminating decimal representation?
13. Prove that $15 + 17\sqrt{3}$ is an irrational number.
14. Find the LCM and HCF of 120 and 144 by using Fundamental Theorem of Arithmetic.
15. $\frac{241}{4000} = \frac{241}{2^m \cdot 5^n}$, find the values of m and n where m and n are non-negative integers. Hence write its decimal expansion without actual division.
16. Prove that $\sqrt{3}$ is irrational.
17. Express the number $0.\overline{3178}$ in the form of rational number.
18. The LCM of 2 numbers is 14 times their HCF. The sum of LCM and HCF is 600. If one number is 280, then find the other number.
19. Given that $\text{LCM}(91, 26) = 182$, then find the HCF (91, 26).