

Guess Paper – UNIT: 1 (Number System)

1. State Euclid's Division Lemma.
2. What is the HCF of 84 and 270?
3. Why the number 4^n , where n is a natural number, cannot end with 0?
4. Show without finding product $5 \times 7 \times 11 + 7$ is a composite number?
5. Show without actual division $40/9$ is a non terminating decimal?
6. Using Euclid's division algorithm, find the HCF of 2160 and 3520.
7. Use Euclid's division algorithm to show that any positive odd integer is of the form $4q + 1$ or $4q + 3$, where q is some integer.
8. Four cloth pieces measuring 14 cm, 18 cm, 22 cm and 26 cm respectively are to be cut into least number of pieces of equal length. What is the length of each piece?
9. Write the condition to be satisfied by q so that a rational number p/q has a terminating expression.
10. Prove that $3 - \sqrt{5}$ is an irrational number.
11. Show that any one of the numbers $(n + 2)$, n and $(n + 4)$ is divisible by 3.
12. Prove that \sqrt{n} is an irrational number.
13. If $793800 = 2^3 \times 3^m \times 5^n \times 7^2$, find the value of m and n .
14. Explain why $5 \times 11 \times 17 + 17$ is a composite number while $7 \times 6 \times 3 \times 5 + 1$ is not a composite number.
15. Prove that no number of the type $4K + 2$ can be a perfect square.