Class 10 Mathematics

Chapter 1: Real Numbers

Previous Year Questions (PYQs)

1. Show that sqrt(2) is an irrational number. (2 Marks)

2. Prove that 3 + 2sqrt(5) is irrational. (3 Marks)

3. Find the HCF of 96 and 404 by Euclid's algorithm. (2 Marks)

4. Use Euclid's division algorithm to find the HCF of 867 and 255. (3 Marks)

5. Find the LCM and HCF of 12, 15, and 21 using the prime factorization method. (3 Marks)

6. Express 98 as a product of its prime factors. (2 Marks)

7. If HCF(306, 657) = 9, find LCM(306, 657). (2 Marks)

8. Find the largest number that divides 2053 and 967 making remainders 5 and 7 respectively. (3 Marks)

9. Prove that 7 - 2sqrt(3) is irrational. (3 Marks)

10. Show that any positive odd integer is of the form 6q + 1, 6q + 3, or 6q + 5, where q is an integer. (3 Marks)

11. Find the HCF of 144 and 180 and express it as a linear combination of 144 and 180. (3 Marks)

12. Find the smallest number which when divided by 28 and 32 leaves remainders 8 and 12, respectively. (3 Marks)

13. Show that 4 + 3sqrt(2) is irrational. (3 Marks)

14. Find the HCF of 36 and 84 using the prime factorization method. (2 Marks)

15. Find the largest number which divides 280 and 1245 leaving remainders 4 and 5 respectively. (3 Marks)

16. Find the LCM and HCF of 72 and 120 using the prime factorization method. (3 Marks)

17. Prove that there are infinitely many prime numbers. (3 Marks)

18. Prove that 1/sqrt(7) is irrational. (2 Marks)

19. Show that the square of any positive integer is either of the form 3m or 3m + 1 for some integer m. (3 Marks)

20. Use Euclid's division lemma to show that the cube of any positive integer is of the form 9m, 9m + 1, or 9m + 8 for some integer m. (4 Marks)

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