

Tutorial -1

1. Find the HCF of 4147 and 3821.
2. Find the HCF of 2736 and 3872.
3. The HCF and LCM of two numbers are 18 and 540, respectively. If one of the numbers is 90, find the other number.
4. The capacities of two water tanks are 315 litres and 420 litres. Find the capacity of the largest container that can exactly measure both tanks.
5. Find the greatest number that will divide 63, 127, and 199, leaving the same remainder in each case.
6. Find the LCM of 4, 3.6, and 0.12.
7. Ravi arranges chairs in rows of 18, 24, or 30 chairs per row, ensuring that no chairs are left out. Find the least number of chairs Ravi had.
8. Ravi, Amit, and Sohan start running around a circular track. They take 48 seconds, 36 seconds, and 60 seconds, respectively, to complete one lap. After how much time will they all meet again at the starting point?
9. Find the LCM of $\frac{5}{6}$, $\frac{7}{9}$, $\frac{4}{3}$.
10. If $8 : b :: 24 : 36$, determine the value of b .
11. If $P:Q = 3:4$, $Q:R = 5:6$, and $R:S = 7:8$, then $P:S$ is equal to?
12. If one star is equal to four circles, and three circles are equal to four diamonds, determine the ratio of stars to diamonds.
13. If 1 square is equal to 5 triangles, and 2 triangles are equal to 3 hexagons, determine the ratio of squares to hexagons.
14. If 1 lion eats as much as 5 deer, and 2 deer eat as much as 7 rabbits, find the ratio of lions to rabbits based on food consumption.
15. Two numbers p and q are in the ratio 8:9, and their sum is 85. What is the value of p ?
16. If 0.5% of $y = 0.12$, determine the value of y .
17. 500 candidates appeared for an examination, of which 430 passed. Calculate the pass percentage.
18. A salesman sells goods worth ₹18,000. Calculate the commission he receives at a rate of 8%.
19. A shopkeeper sells electronics worth ₹75,000. If he gets a $7\frac{1}{2}\%$ commission, calculate his earnings from commission.
20. Neha saves 40% of her total income of ₹20,000 per month. Calculate her total spending.

21. In a family, there are two parents, four children, and one grandparent. The average age of the parents is 40 years, the average age of the children is 8 years, and the grandparent is 72 years old. Find the average age of the family.
22. A village has farmers, workers, and retired people. The average age of farmers (12 people) is 45 years, the average age of workers (18 people) is 35 years, and the average age of retired people (5 people) is 70 years. Calculate the average age of the village population.
23. The average age of 20 players in a football team is 25 years. When the coach is included, the average becomes 26 years. Find the age of the coach.
24. The average weight of 11 athletes increases by 3 kg when a player weighing 70 kg is replaced by another player. Find the weight of the new player.
25. A gym had an average of 120 members per month. After launching a fitness challenge, the membership increased to 150 members per month. Calculate the percentage increase in gym members.
26. **Evaluate** $5(x)^2 + 3(x)^3$ where $x = 3$.
27. If $a \times b = 3a + 2b - ab$, then find the value of $4 \times 6 + 6 \times 4$.
28. The average salary of 25 employees in a company is ₹30,000. When the salary of the manager is included, the average salary becomes ₹32,000. Estimate the salary of the manager.
29. In a competition, each correct answer gives 8 points, and each wrong answer deducts 5 points. If a participant attempts 30 questions and gets 110 points, how many were correct?
30. The length of a rectangle is four times its breadth. If its length is decreased by 7 cm and the breadth is increased by 3 cm, the area of the rectangle increases by 120 sq.cm. Determine the length of the rectangle.
31. Cube root of 32768
32. Determine the least number that should be multiplied by 7200 to make it a perfect square.
33. The average number of books sold in a bookstore was 80 per week. After a discount offer, the average sales increased to 100 books per week. Calculate the percentage increase in book sales

34. Ravi gets 4 marks for each correct answer and loses 3 marks for each wrong answer. He attempts 40 problems and scores a total of 50 marks. Calculate the number of problems he solved correctly
35. Calculate the area of a square, one of whose diagonal is 4.8m long.
36. Calculate the meters of cloth, 50 cm wide, required to cover the floor of a room that is 10 meters long and 8 meters broad.
37. A rectangular room, 4.5 m long and 6.3 m broad, is to be paved exactly with square tiles, all of the same size. Calculate the size of the square tile.
38. Estimate the next number of the series: 10, 21, 43, 87, 175, ____
39. What comes next in the series: 12, 25, 51, 103, 207, ____
40. Find the next number in the sequence: 8, 17, 35, 71, 143, ____
41. Determine the next number in the pattern: 20, 41, 83, 167, 335, ____
42. Guess the next number in the series: 18, 37, 75, 151, 303, ____
43. Find the cube root of 729.
44. Calculate the cube root of 1728.
45. The cube root of 0.000125 is
46. Determine the least number that should be multiplied by 24300 to make it a perfect cube.
47. A botanist plants 6,561 saplings such that the number of rows equals the number of saplings in each row. Estimate the number of saplings in a row.
48. A gardener plants 14,641 flowers such that the number of rows equals the number of flowers in each row. Estimate the number of flowers in a row.
49. Find the square root of 9216.
50. Calculate the square root of 5329.