

8 Section A

- 1 Find y if $\frac{y}{1.6} = 1.5$.
- 2 Find the number of perfect square numbers between 30 and 50.
- 3 Find the value of $10^3 + 9^3$.
- 4 72% of 25 students are not good in mathematics. How many are good in mathematics.
- 5 An item marked Rs. 84.39 is sold for Rs. 71.4. Find the amount of discount.
- 6 Identify and write the like terms: $7xy$, $8x$, $-5y$, $9yx$, $-7x + 9y$, $-5xy$.
- 7 Find the side of a cube whose surface area is 600 cm^2 .
- 8 Find the simplified value of $(5^{-1} + 4^{-1} + 3^{-1})^0$.
- 9 Find the common factors of $2x$, $3x^2$ and 4.
- 10 Find the result of the division: $-20x^4 \div 10x^2$.
- 11 If $5t - 3 = 3t - 5$, then the value of t will be**
- [a] -5 [b] -8 [c] -54 [d] 0
- 12 A shop gives 20% discount. What would be the selling price if the marked price is Rs. 120?
- [a] 100 [b] 96 [c] 98 [d] 102
- 13 Result of adding $ab - bc$, $bc - ca$ and $ca - ab$ is
- [a] $2ab$ [b] $2bc$ [c] $2ca$ [d] none of these
- 14 If $10 \text{ L} = x \text{ cm}^3$, then the value of x will be
- [a] 1000 [b] 100 [c] 100000 [d] 10000
- 15 If the length of the parallel sides of a trapezium are 7 cm and 9 cm with distance between the parallel sides as 3 cm, then its area will be**
- [a] 24 cm^2 [b] 40 cm^2 [c] 16 cm^2 [d] 32 cm^2
- 16 When a die is thrown, list all the outcomes.....**
- 17 The largest square number of two digits is
- 18 Cube root of any odd number is even (true / false)
- 19 If x and y are in direct proportion, relation between them will be
- 20 A point whose x coordinate is zero and y coordinate is non-zero will lie on the y axis (True/false)

Section B

- 21 Sum of two numbers is 95. If one exceeds the other by 15, find the numbers.
- 22 A coin is tossed 200 times and head appeared 120 times. Find the probability of getting a tail.
- 23 Find the smallest perfect square divisible by 3 and 4.
- OR** Find the length of each side of a cube if its volume is 512 cm^3 .
24. Find the cube root of 729.
25. The price of a scooter was Rs. 34000 last year. It has increased by 20% this year. What is the price now?
26. Prove that $(3x + 7)^2 - 84x = (3x - 7)^2$.
- OR** prove the result: $(a + b)(a - b) + (b + c)(b - c) + (c + a)(c - a) = 0$.
27. Three cubes of metal whose edges are 6 cm, 8 cm and 10 cm respectively are melted to form a single cube. Find the side of the new cube.
- OR** Find the height of a cylinder whose radius is 7 cm and the total surface area is 968 cm^2 .

28. Find the simplified value of the expression $(2^5 \div 2^8) \times 2^{-7}$.
29. 6 pipes are required to fill a tank in 1 hour 20 minutes. How long will it take if only 5 pipes of the same type are used?
OR If x varies inversely as y and $y = 60$ when $x = 1.5$. Find the value of x when $y = 4.5$.
30. Correct the error(s) in the mathematical statement $(2x)^2 + 4(2x) + 7 = 2x^2 + 8x + 7$.

Section C

31. Find selling price, if a profit of 5% made on a cycle of Rs. 700 with Rs. 50 as overhead charges.
OR The price of a TV is Rs. 13000. The sales tax charged on it at the rate of 12%. Find the amount that Vinod will have to pay if he buys it.
32. Find the area of a rhombus whose side is 5 cm and whose altitude is 4.8 cm. If one of its diagonals is 8 cm long, find the length of the other diagonal.
33. Factorize $y^2 - 7y + 12$.
34. Find the value of $3y(2y - 7) - 3(y - 4) + 4y + 1$ when $y = -2$.

Section D

35. Maria invested Rs. 8000 in a business. She would be paid interest at 5% per annum compounded annually. Find
 (i) The amount credited against her name at the end of the second year.
 (ii) The interest for the third year.
OR A shopkeeper bought two TV sets at Rs. 10000 each. He sold one at a profit 10% and the other at a loss of 10%. Find whether he made an overall profit or loss.
36. The number of students in a hostel, speaking different languages is given below. Display the data in a pie chart:

Language	Bengali	Tamil	Marathi	English	Hindi	Total
Number of Students	4	7	9	12	40	72

37. Simplify the product: $(a + b + c)(a + b - c)$.
38. A train is moving at a uniform speed of 75 km/hour.
 (a) How far will it travel in 20 minutes?
 (b) Find the time required to cover a distance of 250 km.
39. Simplify the expression $\frac{3^{-5} \times 125 \times 10^{-5}}{5^{-7} \times 6^{-5}}$.
40. Factorize $25a^2 - 4b^2 + 28bc - 49c^2$.
OR A bag has 4 red balls, 5 green balls and 2 yellow balls. A ball is drawn from the bag without looking into the bag. What is the probability of getting
 (i) a red ball? (ii) a green ball (iii) not a yellow ball (iv) neither yellow nor green
41. If the edge of a cube is doubled
 (a) How many times will its surface area increase?
 (b) How many times will its volume increase?
OR A rectangular piece of paper 11 cm \times 4 cm is folded without overlapping to make a cylinder of height 4 cm. Find the volume of the cylinder.