

- 1) Solve for x : $2^{2x+2} = 4^{2x-1}$
- 2) Find the ratio between the T.S.A of two cylinders with equal radius and corresponding height are $h_1 = 2r$ and $h_2 = 3r$
- 3) The diagonal of a rhombus are 6 cm and 8 cm. Find its perimeter.
- 4) Simplify: $5x^2(7x^3 - 5x^2 + 2) + 4$ and find its value at ~~$x = -1$~~ $x = (-1)$.
- 5) A shirt with market price Rs. 800 was sold at Rs. 680. Find the rate of discount.
- 6) Find the value of x so that $(4^{-1} + 2^{-1} + 6^{-1} + 8^{-1})^x = 1$
- 7) If $32 \times 16^{p+2} = 2^p$, then $p = ?$
- 8) 2025 Plants are to be planted in a garden in such a way that each row contains as many plants as the number of rows. Find the number of rows and the number of plants in each row.
- 9) Factorise: i) $25(a+b)^2 - (a-b)^2$
ii) $(a^2 - b^2)(c^2 - d^2) - 4abcd$.
- 10) Write the Pythagorean triplet whose smallest member is 9.

11) Find three numbers in the ratio 2:3:5, the sum of whose squares is 608.

12) If $(27)^x = (81)^y$, then find $x:y$

13) Solve for x : i) $2^{x+2} + 2^{x-1} = 9$

$$\text{ii) } 2^{x+1} + 2^{x+2} = 48$$

14) Is 3600 a perfect cube? If not, by which smallest natural number it should be divided to make it a perfect cube?