

- 1) By selling a fan for Rs. 649, Anil earns a profit of 18%. Find its cost price.
- 2) What must be added to $5x^2 - 3x + 1$ to get $3x^3 - 7x^2 + 8$?
- 3) Find the amount to be paid at the end of 6 months on Rs. 1800 at 8% per annum compounded quarterly.
- 4) If $(\frac{-5}{7})^{-4} \times (\frac{-5}{7})^{12} = \{ (\frac{-5}{7})^3 \}^x \times (\frac{-5}{7})^{-1}$, find the value of x .
- 5) Factorise : $49p^2 - 36q^2$.
- 6) The floor of a building consists of 3000 tiles which are rhombus shaped and each of its diagonals are 45 cm and 30 cm in length. Find the cost of polishing the floor at the rate of Rs. 4 per m^2 .
- 7) Solve the equation : $(x+1)/(x-1) = (2x+3)/(2x-5)$
- 8) A cuboid is of dimensions 24 cm \times 30 cm \times 36 cm. How many small cubes with side 6 cm can be placed in the cuboid?
- 9) Divide Rs. 7,000 among A, B, C such that A gets 50% of what B gets and B gets 50% of what C gets.
- 10) Mohan purchased an old car for Rs. 73,500. He spent Rs. 10,300 on repairs and paid Rs. 2,600 for its insurance. Then he sold it to a mechanic for Rs. 84,240. What was his percentage gain or loss?
- 11) If 14 workers can build a wall in 45 hours, how many workers will be required to do the same work in 35 hours?
- 12) The digit in the tens place of a two-digit number is three times that in the unit's place. If the digits are reversed, the new number will be 36 less than the original number. Find the original number.

- 13) A rectangular sheet of tin foil of size $30 \text{ cm} \times 18 \text{ cm}$ can be rolled to form a cylinder in two ways along length and breadth. Find the ratio of volumes of two cylinders thus formed.
- 14) Three years ago the population of a town was 50,000. If the annual increase during three successive years be at the rate of 5%, 4% and 3% respectively, what is its present population.
- 15) Factorise: a) $121a^2 - 88b + 16b^2$ b) $12(2x - 3y)^2 - 16(3y - 2x)$
- 16) The length, breadth and height of a cuboid are in the ratio 7: 6: 5. If the surface area of the cuboid is 1926 cm^2 , find the volume of the cuboid.
- 17) If 10 men or 14 women can earn Rs. 1750 per day, how much would 20 men and 10 women earn per day?
- 18) Arif took a loan of Rs. 80,000 from a bank. If the rate of interest is 10% per annum, find the difference in amounts he would be paying after $1\frac{1}{2}$ years if the interest is
- Compounded annually
 - Compounded half yearly
- 19) How many cubic metres of earth must be dug out to sink a well which is 20m deep and has a diameter of 7metres? If the earth so dug out is spread over a rectangular plot 28m by 11m, what is the height of the platform so formed?
- 20) If $x + \frac{1}{x} = 5$, then find
- $x^2 + \frac{1}{x^2}$
 - $x^4 + \frac{1}{x^4}$
- 21) A and B can do a piece of work in 18 days, B and C can do it in 24 days while C and A can finish it in 36 days. In how many days can A, B, C finish it, if they all work together and also find how much time will B alone take to finish the job?