

1. Out of her income, Mrs Jain spends 20% on house rent and 60% of rest for other expenses. If she saves Rs 2000, what is her total income?
2. A house maid deposits Rs 150 per month in her post office savings bank account. If this is 15% of her monthly income, find her monthly income.
3. If a man were to sell his hand cart for Rs 720, he would lose 25%. At what price must he sell it to gain 25%?
4. The cost price of 16 articles is equal to selling price of 12 of them. Find the gain or loss percent.
5. Soniya buys 2 bedsheets for Rs 450 each. She sells one at a profit of 6% and other at a loss of 6%. Find her gain or loss percent.
6. Find the product
 - a. $(-5x^2y^2) \times \left(-\frac{4}{35}xz\right) \times (-9x^2y^2)$
 - b. $\left(\frac{3}{4}a^2 + 7b\right) \times \left(a^3 + \frac{2}{9}b^2\right)$
 - c. $(p^2 - q^2) \times (p - q)$ verify for $p = 2, q = 0$.
7. Simplify.
 - a. $3a^2 + 2(a+2) - 3a(2a+1)$
 - b. $x(x+4) + 3x(2x^2-1) + 4x^2 + 4$.
8. Find using identity
 - a. 107×103
 - b. $(82)^2 - (18)^2$
 - c. $(1001)^2$
 - d. $(69)^2$
9. If $x + \frac{1}{x} = 20$. Find $x^2 + \frac{1}{x^2}$
10. If $x + y = 4$ and $xy = 2$, find $x^2 + y^2$.