

HOTS PROBLEMS

Chapter 7: Comparing Quantities

1. *In how many years will the simple interest on a certain sum be 4.05 times the principal at 13.5% per annum ?*
2. *Divide Rs. 10,000 in two parts so that the simple interest on first part for 4 years at 12% per annum may be equal to the simple interest on the second part for 4 years 6 months at 16% per annum.*
3. *In a debate competition, the judges decide that 20% of the total marks will be given for accent and presentation. 60% of the rest are reserved for subject matter and the rest are for rebuttal. If this means 8 marks for rebuttal, then find the total marks.*
4. *If a number x is 10% less than another number y and y is 10% more than 125, then find x .*
5. *Subrata borrowed Rs. 3,00,000 at 12% per annum from a money lender. At the end of 3 years, he cleared the account by paying Rs. 2,60,000 and a gold necklace. Find the cost of necklace.*
6. *A memorial trust donates Rs. 5,00,000 to a school, the interest on which is to be used for awarding 3 scholarships to students obtaining first three positions in the class X board examination every year. If the donation earns an interest of 12% per annum and the values of second and third scholarships are Rs. 20,000 and Rs. 15,000 respectively, find out the value of first scholarship.*
7. *In an examination, there are three papers. The maximum marks of the papers are 150, 200 and 250 respectively. A student scored 62% in first paper and 83.5% in second paper. If he got 75% marks overall, then calculate the percentage of marks he got in the third paper.*
8. *Rs. 9000 becomes Rs. 18000 at simple interest in 8 years. Find out the rate of interest per annum.*