PRACTICE TEST: CLASS -X

ARITHMETIC PROGRESSION

Q1 Divide 32 into 4 parts which are in AP such that product of extremes to the product of means is 7:15

Q2 How many terms of the series 54 ,51 ,48, … must be taken so that their sum is 513? Explain the double answer

Q3 In an AP the sum of first n terms is $(3n^2+ 5n)/2$. Find the 25th term

Q4 If the sum of m terms of an AP is the same as the sum of n terms then show that the sum of its (m+n) terms is 0

Q5 The sum of first p, q, r terms of an AP are a, b, c respectively then find the value of

$a(q-r)/p +b(r-p)/q +c(p-q)/r$

Q6 The ratio of the sum of n terms of two AP is (7n+1): (4n+27). Find the ratio of their m terms

Q7 If there are (2n+1) terms in an AP then prove that the ratio of sum of odd terms to the sum of even terms is (n+1): n

Q8 A manufacturer of a TV set produced 600 units in the third year and 700 units in the seventh year. Assuming that the production increases uniformly by a fixed number every year. Find the production in
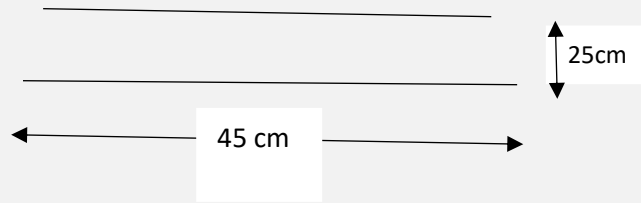
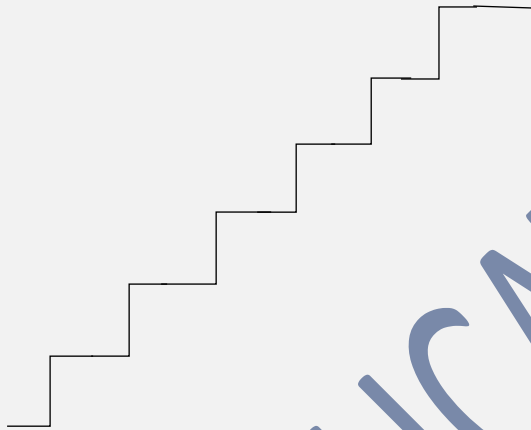(i) first year

(ii) the 10th year

(iii) 7 years

Q9 A ladder has rungs 25cm apart (see the figure below). The rungs decrease uniformly in length from 45cm at the bottom to 25cm at the top. If the top and bottom rungs are 2.5 meter apart, what is the length of the wood required for the rungs.

25cm

45 cm
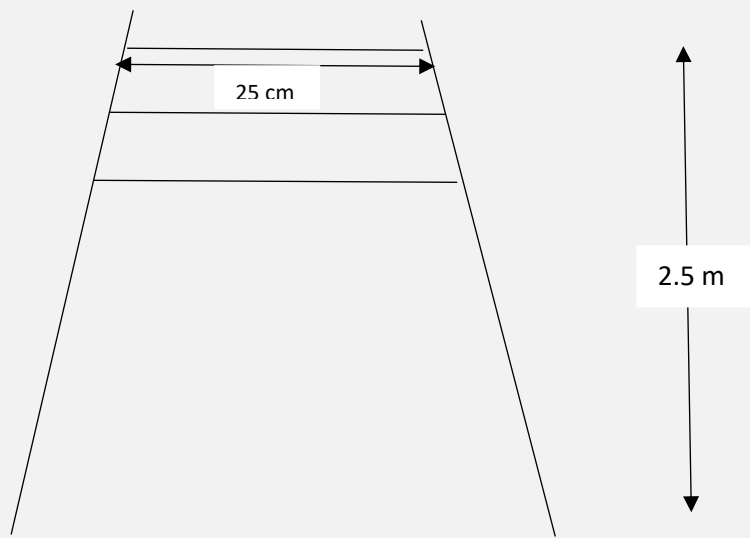
Q 10 A small terrace of a football ground comprises of 15 steps each of which is 50 m long and built of solid concrete. Each step has a rise of 0.25m and a tread of 0.5m (see the below figure). Calculate the total volume of concrete required to build the terrace