Task

A shipment of 10 television sets contains 3 defective sets .The number of ways in which one can purchase 4 of these sets and receive two defective sets are

Solution

The number of ways in which one can purchase 2 non defective television sets is $C_{10-3}^{2} = C_{7}^{2} = 21$.

The number of ways in which one can purchase 2 defective television sets is $C_{3}^{2} = 3$.

For the multiplication principle we get the number of ways in which one can purchase 4 of these sets and receive two defective sets are $21 \cdot 3 = 63$.

Answer: 63 ways