

Ques:- How many ways are there to distribute six different toys to three different children such that each child gets at least one toy?

Ans:-

this problem is an onto function where the set of toys is assigned to the set of children, so we have already proved in lecture that how to find total number of onto functions from a ($m=6$) set to n -set ($n=3$) which is equal to

$$= 3^6 - C(3,1) 2^6 + C(3,2) 1^6$$

$$= 729 - 3(64) + 3(1)$$

$$= 729 - 192 + 3$$

$$= 540.$$