# Answer on Question \#76324 - Math - Discrete Mathematics 

## Question

How many permutations of the 26 letters of our alphabet do not contain any of the three strings "US", "AIM", and "DONKEY"?

## Solution

The total number of permutations of the 26 letters:

$$
n=26!
$$

To find the number of permutations which contain the given strings we have to arrange ( $26-11$ ) letters and 3 strings ( 11 is the number of letters in all three strings):

$$
m=(26-11+3)!=18!
$$

Answer: $N=n-m=26!-18$ !

