
For each of the following problems circle T if the given statement is always true and F if the statement is sometimes false. There is no partial credit on this part of the quiz.

1. T F For any counting numbers n and m , $(n + m)! = n! + m!$.

2. T F For any counting numbers n and m , $(n \cdot m)! = n! \cdot m!$.

Complete the following problems. Show all work and explain your reasoning.

3. Find the number of “words” that can be formed using all of the letters in NONSENSE.

4. There is a club with members Alan, Bill, Cathy, David and Evelyn.

(a) Use the list method to determine how many ways there are to choose a male and a female to decorate for a party.

(b) Find the number of ways in which you can line up all five members for a photograph.