Problems I

1. An basket of fruits contains 6 oranges, 8 apples and 5 bananas. Suppose that four fruits are draw together at at random, then find the possible ways number to obtain each of the following events:

A. Four fruits (Sample space)

B. Four fruits from the same type.

C. Four fruits from different types.

D. At least two apples.

E. At most three oranges.

F. Either two oranges or two bananas.

G. Two apples and one fruit from each of the other types.

H. One bannana.

I. One orange and at least three apples.

J. Two bananas and at most two apples.

K. Two fruits from the same type and two fruits from different types.

L. Neither apples nor oranges.

M. No bananas.

2. Re-Solve problem 1 if four fruits are drawn respectively at random without replacement.

3. Re-Solve problem 1 if four fruits are drawn respectively at random with replacement.

4 An academic department consists of 25 males and 15 females. It is intended to form a committee of 5 students, then:

A. How many committees can formed.

B. How many committees can formed with specific tasks.

C. How many committees can be formed from females.

D. How many committees can be formed without including females.

E. How many committees can be formed if it consists of a chairman and two vice-chairman. (deputies)

F. How many committees can be formed if it consists a man chairman and a female vice-chairman.

G. How many committees can be formed if the chairman is a man.