Permutation and Combination – 2022 AS Nov Math

1. Nov/2022/Paper_9709_51/No.6

cons	consists of 5 of its members.					
(a)	Find the number of different ways in which the committee can be formed from the 15 members if it must include more men than women. [4]					
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A Social Club has 15 members, of whom 8 are men and 7 are women. The committee of the club

The 15 members are having their photograph taken. They stand in three rows, with 3 people in the front row, 5 people in the middle row and 7 people in the back row.

(b) In how many different ways can the 15 members of the club be divided into a group of 3, a group of 5 and a group of 7?

[3]

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In o	ne photograph Abel, Betty, Cally, Doug, Eve, Freya and Gino are the 7 members in the back row
In o (c)	In how many different ways can these 7 members be arranged so that Abel and Betty are next t
	In how many different ways can these 7 members be arranged so that Abel and Betty are next to each other and Freya and Gino are not next to each other?
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2.		/2022/Paper_9709_52/No.7 Find the number of different arrangements of the 9 letters in the word ALLIGATOR in which the two As are together and the two Ls are together. [2]
		500
		100
	(b)	The 9 letters in the word ALLIGATOR are arranged in a random order.
		Find the probability that the two Ls are together and there are exactly 6 letters between the
		two As. [5]

(-)	Find the small and different relations of 5 latters from the Office and ALLICATOR
(c)	Find the number of different selections of 5 letters from the 9 letters in the word ALLIGATOR which contain at least one A and at most one L. [3]
	300

3.		2022/Paper_9709_53/No.6 Find the number of different arrangements of the 9 letters in the word ACTIVATED.	[2]
	(b)	Find the number of different arrangements of the 9 letters in the word ACTIVATED in there are at least 5 letters between the two As.	
		•••	

Five letters are selected at random from the 9 letters in the word ACTIVATED. (c) Find the probability that the selection does **not** contain more Ts than As. [5]