

Example 6

While playing a board game, Cathy pulls out the following letters: W, E, E, A, C, K, E

- a) How many different arrangements can be made using all of the letters she pulled out?

$$\frac{7!}{3!} = 840$$

- b) If Cathy places all the vowels together and all the consonants together, how many different arrangements can be made using all of the letters above?

aeiou ~~not~~ aeiou

	EEAE	WCK
	<u>group 1</u>	<u>group 2</u>
	4!	3!
2 groups	<u>3!</u>	
2!		

$$2! \times \frac{4!}{3!} \times 3!$$

$$= 48 \text{ ways.}$$