quiz

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(1) $\binom{5}{1}^{k-1}\binom{2}{1}$

(2) How many configurations exist? $n! * 2!$

what is the probability of such a configuration?

$\frac{n!*2!}{(2n)!}$ (For my solution I suppose the seats are different)

(3)k=0 $\frac{\binom{4}{1}\binom{5}{1}\binom{5}{1}}{\binom{9}{1}\binom{10}{1}\binom{10}{1}}$

k=1

if the first number is less than 5: $\frac{\binom{4}{1}\binom{2}{1}\binom{5}{1}\binom{10}{1}}{\binom{9}{1}\binom{10}{1}\binom{10}{1}}$

else: $\frac{\binom{5}{1}\binom{5}{1}\binom{5}{1}}{\binom{9}{1}\binom{10}{1}\binom{10}{1}}$

k=2

if the first number is less than 5: $\frac{\binom{4}{1}\binom{5}{1}\binom{5}{1}}{\binom{9}{1}\binom{10}{1}\binom{10}{1}}$

else: $\frac{\binom{5}{1}\binom{2}{1}\binom{5}{1}\binom{5}{1}}{\binom{9}{1}\binom{10}{1}\binom{10}{1}}$

k=3 : $\frac{\binom{5}{1}\binom{5}{1}\binom{5}{1}}{\binom{9}{1}\binom{10}{1}\binom{10}{1}}$