

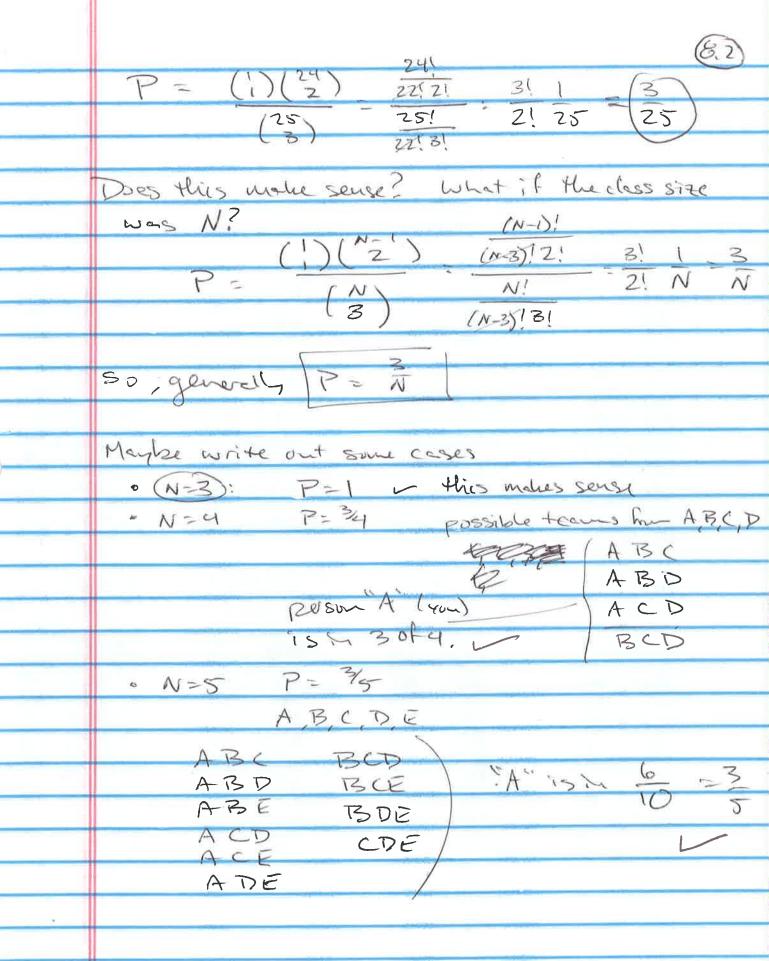
EX a) How many ways are there to chause a 3- Student team from our class of 25 students aus: 3 Denumber of permutatives (Biromies of carroup of 3 students Coefficient b) what is the probability that you will be selected if the students are selected randomly. Thoughts . " maybe 75? X no. This would be true for a France 1 · note if it was a team of 25 students you would for swelpe selected, so it smehn departs on team size. · Maybe 3 ? yes. But let's agure this out ... P= # oftens you are on

total # of teams

You must be chose (huma

you show you show you have y

8) 8 1



One other thought... Selected then anylowy any sody then any - but you Gody Count Yun note: 311 3 of these events Other thoughts must happen for you to not get prehid (so multiplication) we can also think cases How can you get picked to end up on the team... OR 2nd 184 therangly not picked Picked Piched Chance you CNSA get picted and

(8,4)

Cards "Standard" Dech of SZ cards \$ 13 clubs (2,3,4,5,6,7,8,9,10,5,Q,K,A) 13 spedes (13 hearts 13 diamonds EX1

11.3

. How many different two-cord hands one there? (order of the cards does not matter

N. Tor = (52) 52.57 = 26.51 (Just like pickey)

2 2 26.51 a calculus tean

of 3 hun class

of 25)

· How many two and hands are "pairs" (e.g. [A & and A W), or (4 @ and 4 @)

 $N_{PAIR} = \begin{pmatrix} 13 \\ 1 \end{pmatrix} \cdot \begin{pmatrix} 4 \\ 2 \end{pmatrix} = 13 \cdot \frac{41}{2!2!} = 13.3.2$ "Pich the denominant Pour suits

· Probability of gettley a pair P = NPASR (13)(4)

13.3.2

26.51

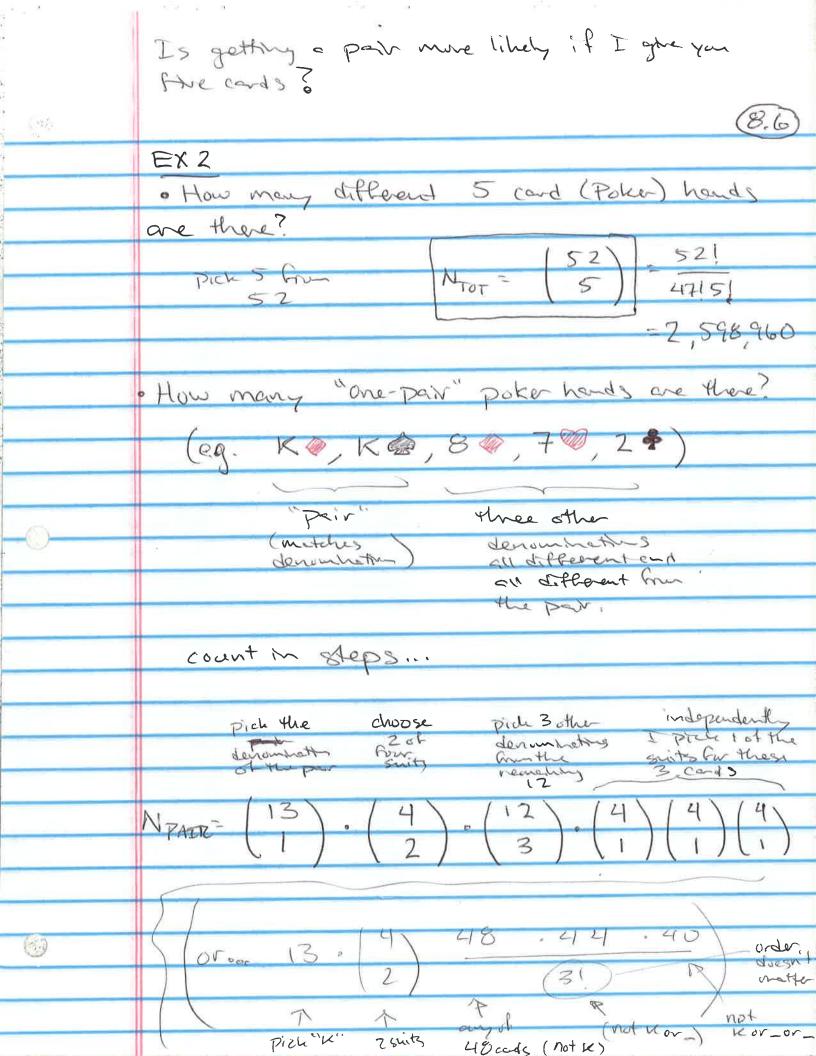
Another way to do this calculation

NPATER = 52 3

any cord only 3 other that the case would permutation of cords when of cords we have of cords when the cords of cords.

Then drive by Nort to get P: 1/17).





PAR - NTOT 2,598,960

this is much higher than P= = = 0.0588

Par gree only 2 cods



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4.3.2.1.2.1

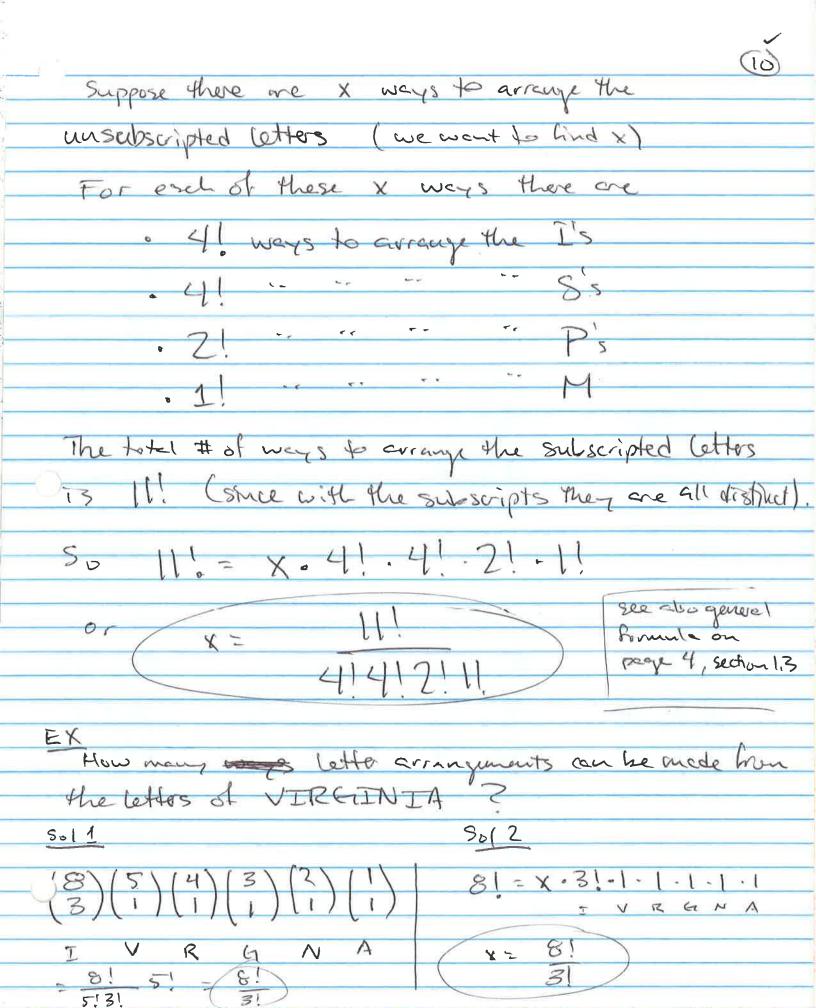
63,000

EX
How many letter arrangements can be made from the letters of MISSISSIPPI?
letters of MISSISSIPPI
(note: the I's are indistinguishable, the S's are as well,
and Ps too).
5011
11 spaces
alma 11 can PM II C III I'c · /II)
· choose 4 spaces of the 11 for the Is:
· choose 4 spaces of the remaining 7 hor \$'s (7)
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
choose 2 spaces of the remaining 3 for P's (3)
· choose I space of the remains I har M
(3 these are on 4 "experiments" so the fited #
of energeneents is (note the choices, overpetuents are
(4) - (3) - (3) mdefindent).
(4)·(3)·(3)·(1)
= 11! 2! . 3! 1!
7.4! 3.4! V2! O!!! 4!4!2!
Sol 2 (put substripts on the letters to distinguish them)
M, I, S, S ₂ I ₂ S ₃ S ₄ I ₃ P, P ₂ I ₄ 5 3 ×
11-18-9-9-5 10-5-3-2-76-5
4.77.1-7.1 63000

ting to the

*** * * * * * * *

4 06 T 10 TH



2 m 2 m 2 m

efregge and as

× 14 gar = 0 13

* Programme Agrical

Textbook : A person has & Griends, 5 of whom will Problem #20 be invited to a party.
a) How many choices if 2 friends are fending and will not attend togethe?
Sol1 - cases
Bad Wiend I (b) i.e. Choose 4 of remaining 6 attends, 2 (4) attends 7 (6) dues not
Neither bad Wiend. (6) attends (5)
These 3 scenarios represent disjoint or mutually exclusive ways to make 5 poson party. So Total = (6) + (6) + (6) - 15 + 15 + 6 - 36
Sol ? (8) were to make 5 person party but
this includes cases where both had friends attend, so
we need to subtract something off. That is,
(8-2) = (3) of these have both bad briends (i.e. choose 2 bod briends and 3 of the reway 6). So (3) - (6) = 3.7.6 6.5.4 = 36
-36

efer a section

8 n 8 _ 0

ETA LIFE ALLE

5 6 6 60

efa y Y o Y

Agon a contra

a September

5° 4 2 4 3 10 4 5 5