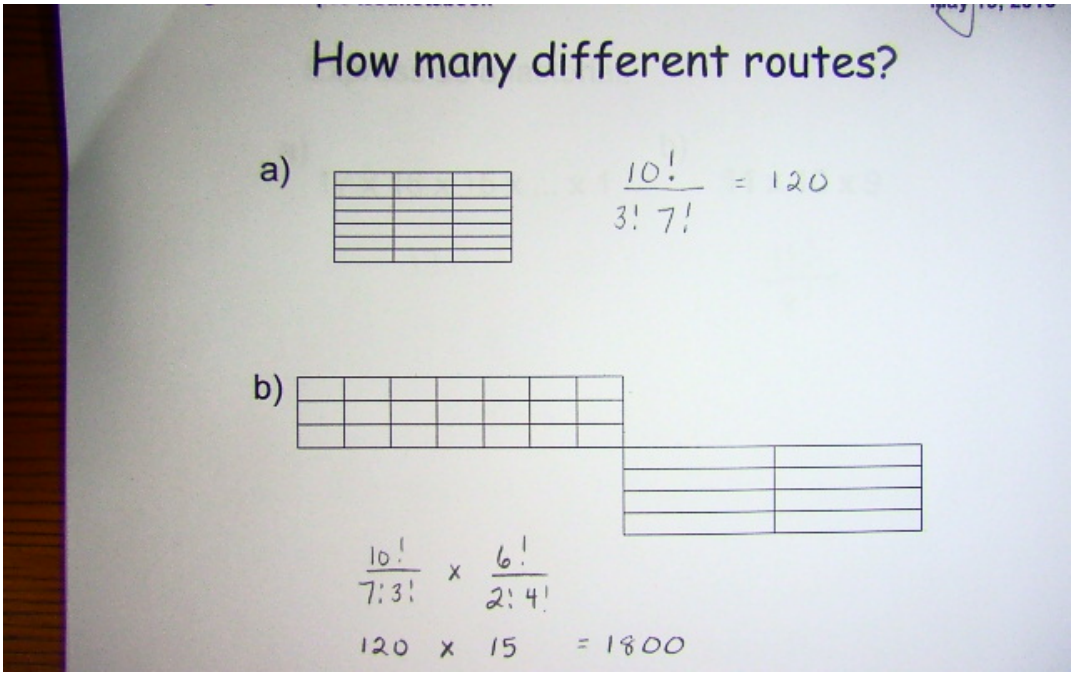
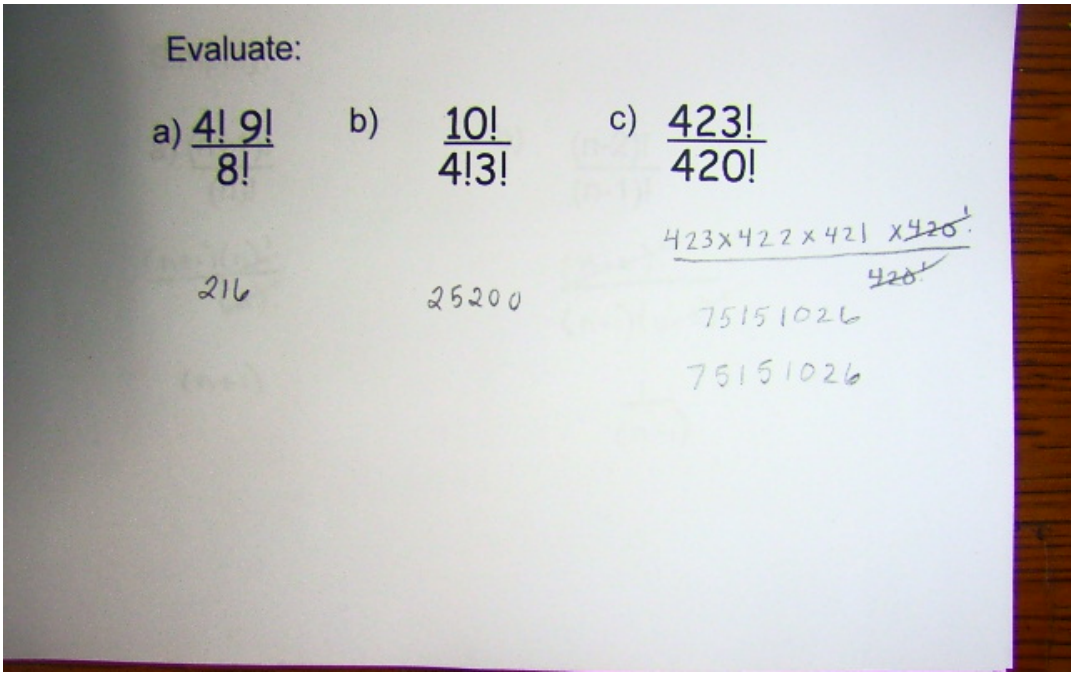
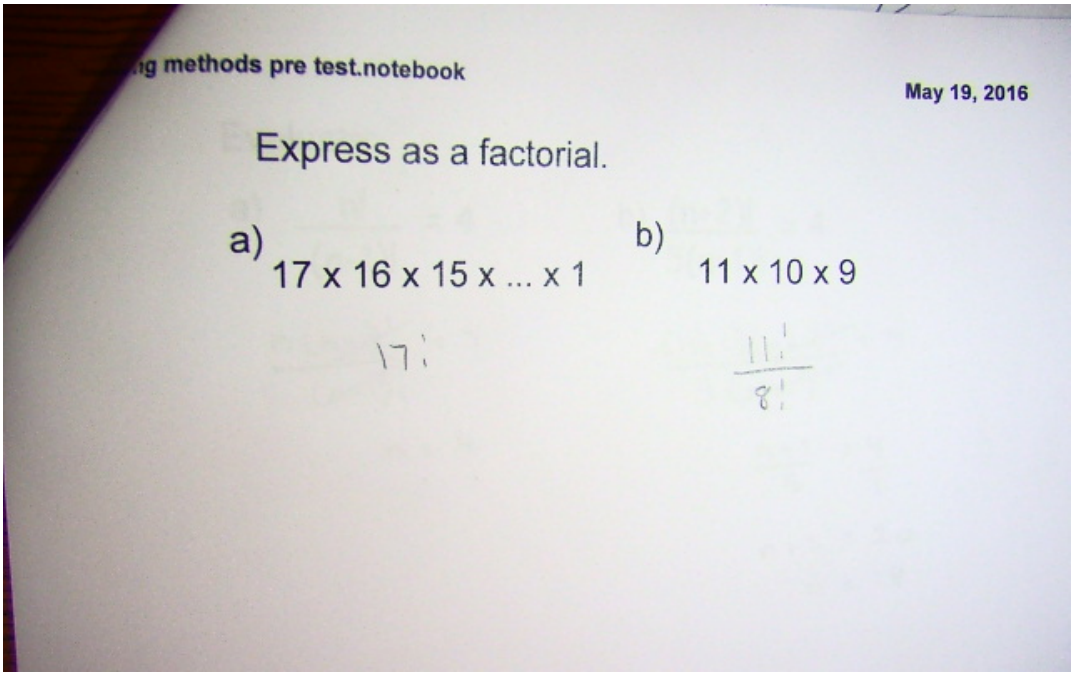
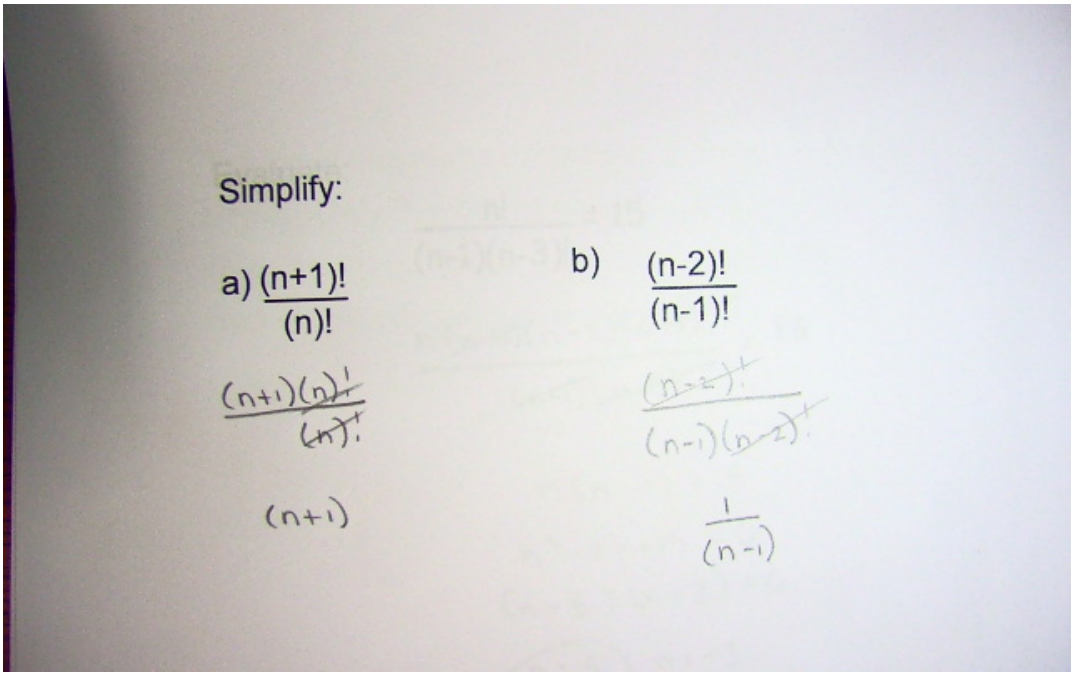
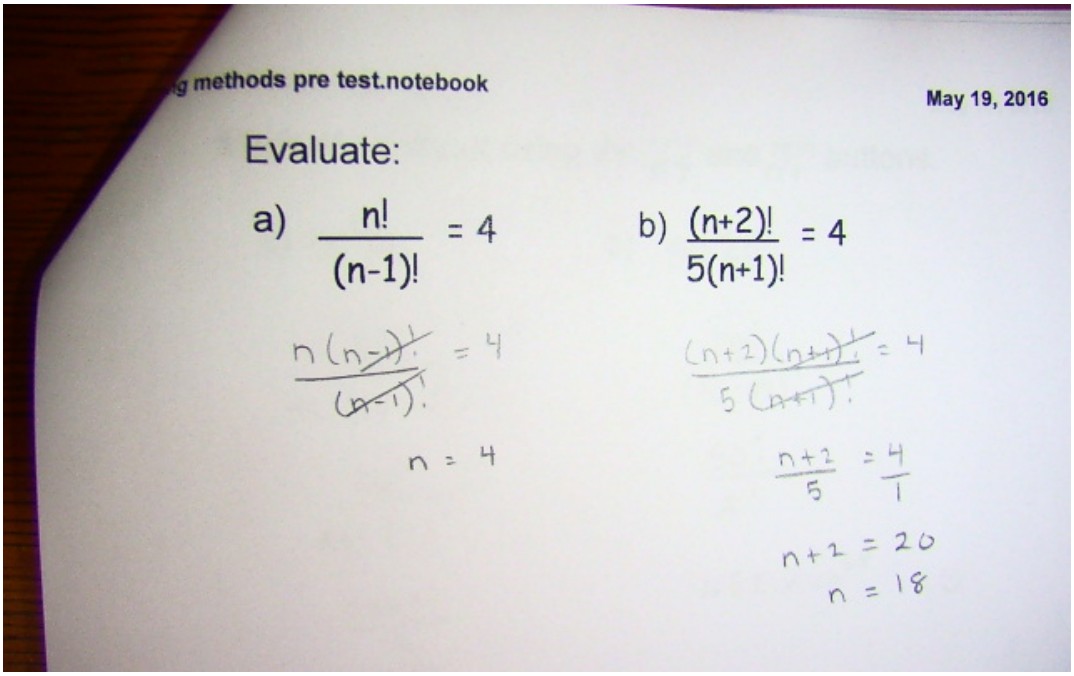

How many different routes?
a)
$\frac{10!}{3!\,7!} = 120$
b)
$\frac{10!}{7!\,3!} \times \frac{6!}{2!\,4!}$
$120 \times 15 = 1800$


Evaluate:
a) 4! 9! / 8!
b) 10! / 4!3!
c) 423! / 420!
216
25200
423x422x421 x420!/420!
75151026
75151026


ng methods pre test.notebook
May 19, 2016
Express as a factorial.
a)
17 x 16 x 15 x ... x 1
17!
b)
11 x 10 x 9
11!/8!


Simplify:
a) $\frac{(n+1)!}{(n)!}$
$\frac{(n+1)(n)!}{(n)!}$
$(n+1)$
b) $\frac{(n-2)!}{(n-1)!}$
$\frac{(n-2)!}{(n-1)(n-2)!}$
$\frac{1}{(n-1)}$


g methods pre test.notebook
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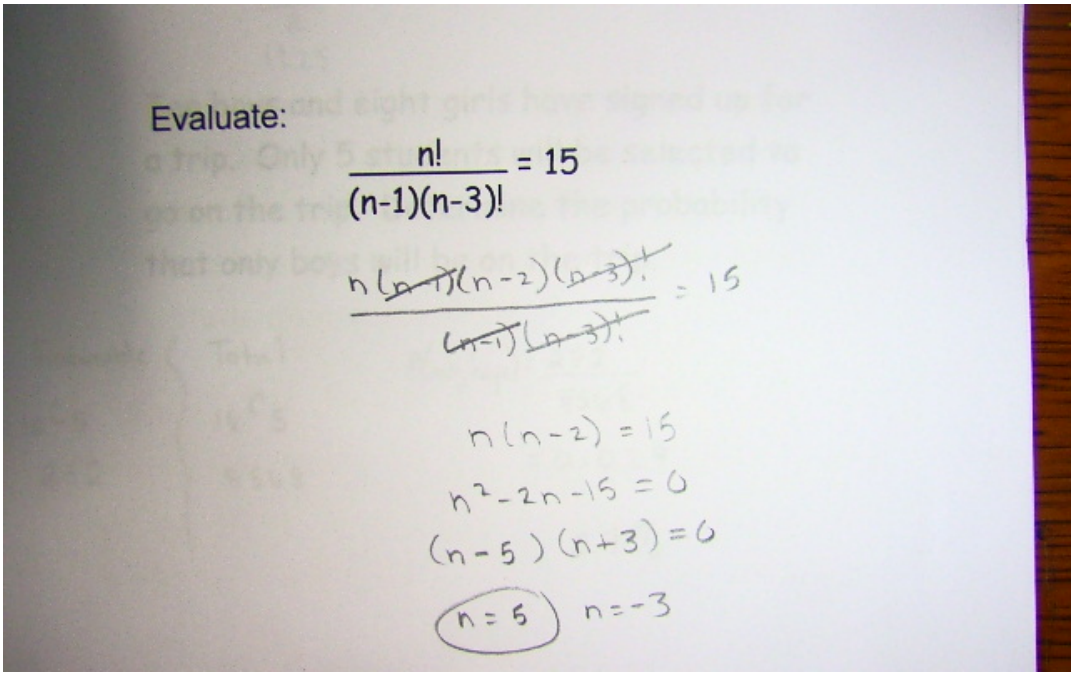
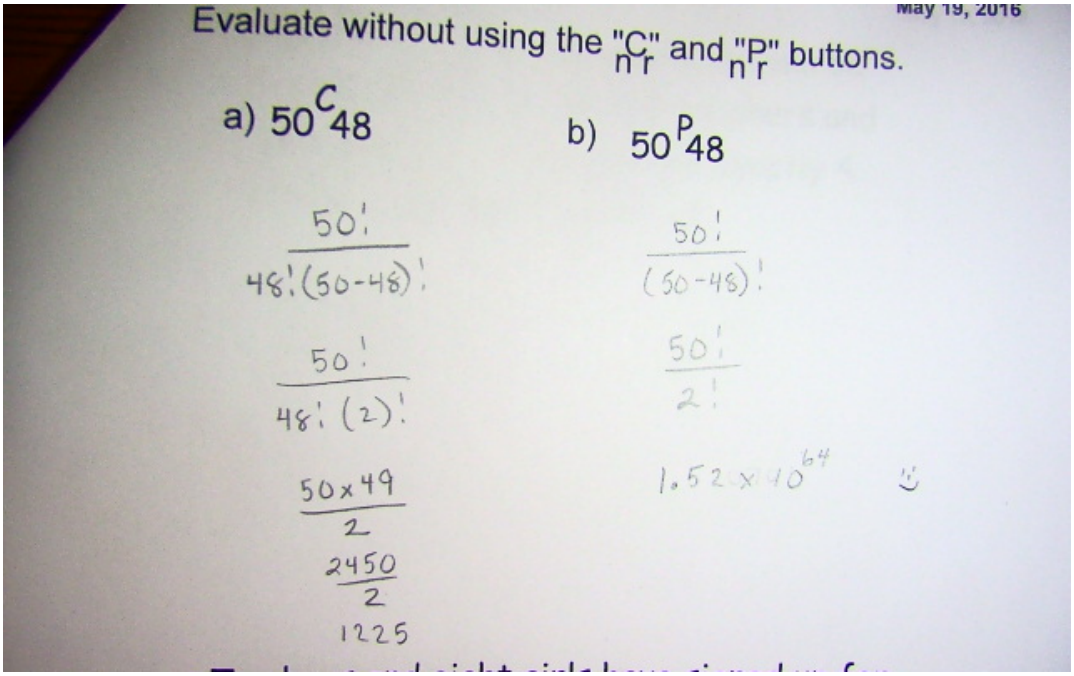
Evaluate:
a) n! / (n-1)! = 4
n(n-1)! / (n-1)! = 4
n = 4
b) (n+2)! / 5(n+1)! = 4
(n+2)(n+1)! / 5(n+1)! = 4
n+2 / 5 = 4 / 1
n+2 = 20
n = 18


Evaluate:
n!
(n-1)(n-3)! = 15
n(n-1)(n-2)(n-3)!
(n-1)(n-3)! = 15
n(n-2) = 15
n² - 2n - 15 = 0
(n-5)(n+3) = 0
n = 5
n = -3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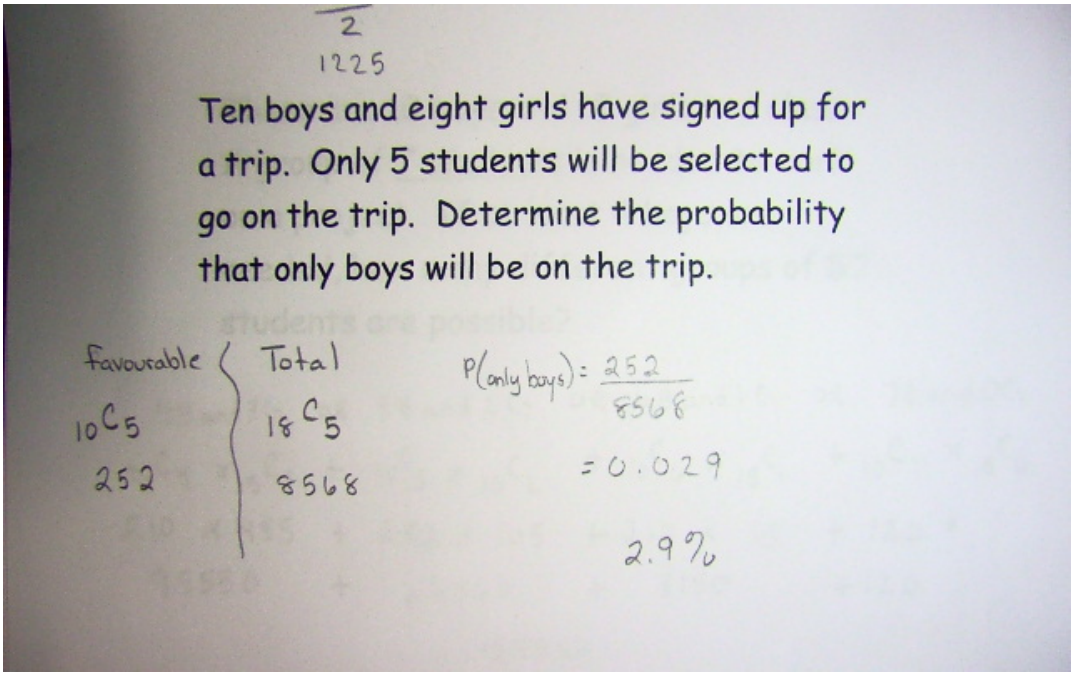
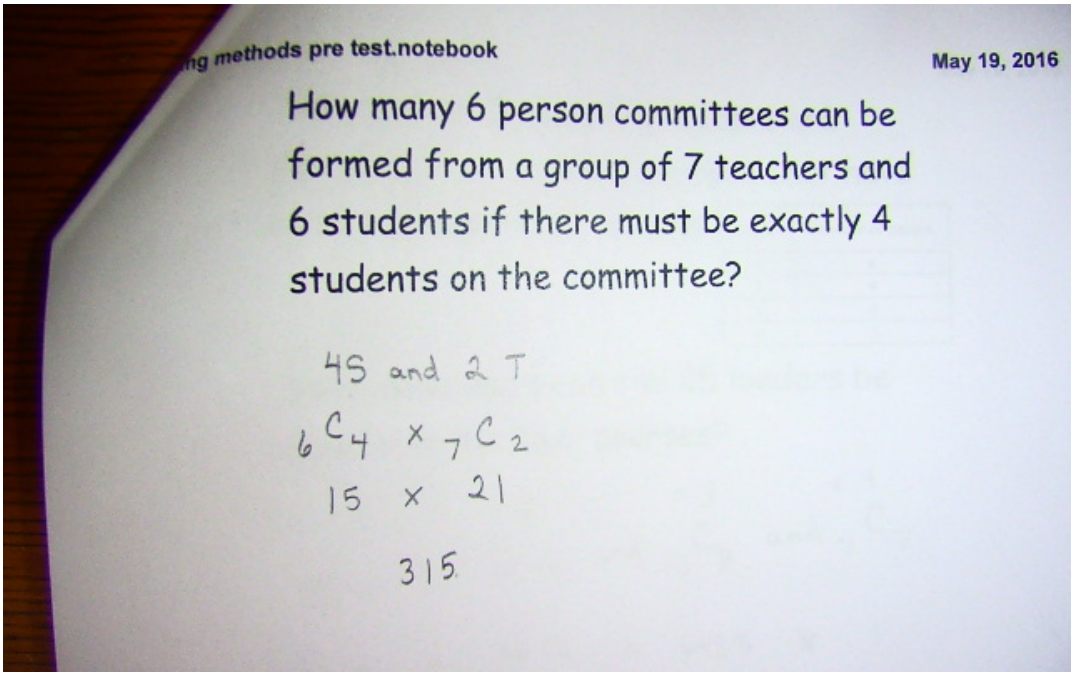
Evaluate without using the "C" and "P" buttons.
a) 50C48
b) 50P48
50!/48!(50-48)!
50!/48!(2)!
50x49/2
2450/2
1225
50!/(50-48)!
50!/2!
1.52x10^64


2
1225
Ten boys and eight girls have signed up for a trip. Only 5 students will be selected to go on the trip. Determine the probability that only boys will be on the trip.
Favourable
Total
$_{10}C_5$
252
$_{18}C_5$
8568
P(only boys) = 252/8568
= 0.029
2.9%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May 19, 2016
How many 6 person committees can be formed from a group of 7 teachers and 6 students if there must be exactly 4 students on the committee?
4S and 2T
$_6C_4 \times {}_7C_2$
15 x 21
315

There are 10 boys and 15 girls in a class. A group of 7 students is needed to work on a project. If at least 4 boys are needed, how many different groups of 7 students are possible?

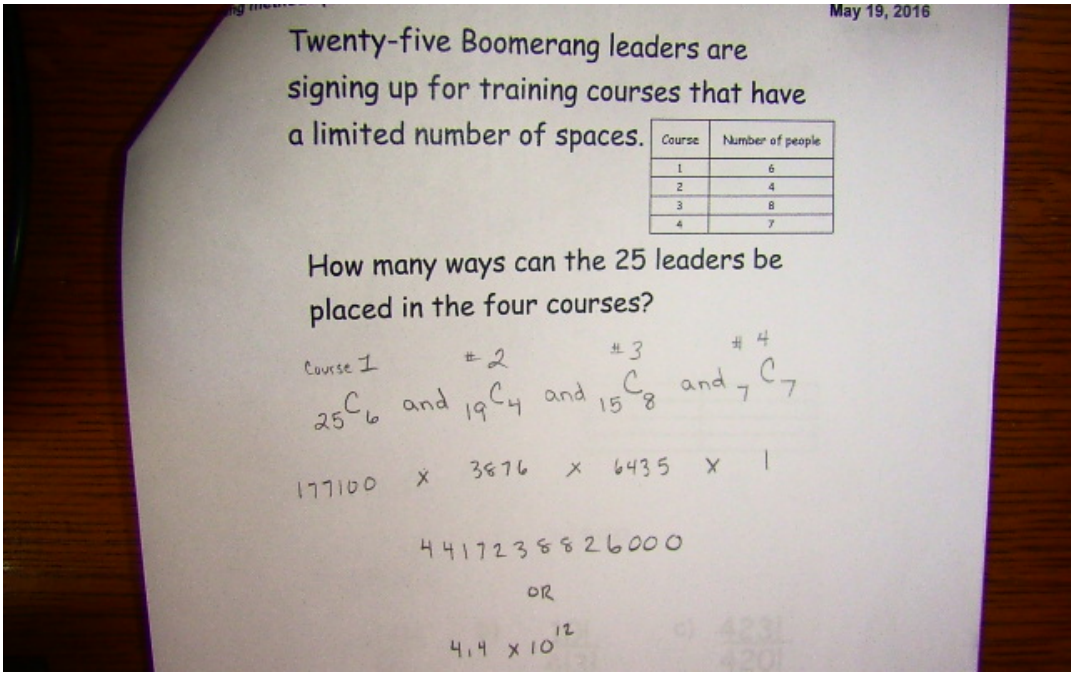
4B and 3G OR 5B and 2G OR 6B and 1G OR 7B and 0G

$_{10}C_4 \times {}_{15}C_3 + {}_{10}C_5 \times {}_{15}C_2 + {}_{10}C_6 \times {}_{15}C_1 + {}_{10}C_7 \times {}_{15}C_0$

$210 \times 455 + 252 \times 105 + 210 \times 15 + 120 \times 1$

$95550 + 26460 + 3150 + 120$

125280



May 19, 2016

Twenty-five Boomerang leaders are signing up for training courses that have a limited number of spaces.

Course	Number of people
1	6
2	4
3	8
4	7

How many ways can the 25 leaders be placed in the four courses?

Course 1 #2 #3 #4

$_{25}C_6$ and $_{19}C_4$ and $_{15}C_8$ and $_{7}C_7$

177100 x 3876 x 6435 x 1

441723882600

OR

4.4×10^{12}