Date

Task

Arsany Ekramy (AI)

1) ~~nCk~~ nCk → 250C2 = $\frac{250!}{2!(250-2)!}$

$\frac{250 \times 249 \times 248!}{2! \times 248!} = 31.125$

2) 0 1 2 3 4 distinct
2 2 1 1 1 = 2×2×1×1×1 = 6

3) 0 1 2 3 4 distinct
1 2 2 2 1 = 1×2×2×2×1 = 8

4) nCk = 30C3 = $\frac{30!}{3!(30-3)!}$ = $\frac{30 \times 29 \times 28 \times 27!}{3 \times 2 \times 1 \times 27!}$

= 4060

5) nCk = 6C3 = $\frac{6!}{3!(6-3)!}$ = $\frac{6 \times 5 \times 4 \times 3!}{3! \times 3!}$ = 20

6) Probability of rolling a 7 on a single roll of a pair is 6/36

not rolling a 7 is 30/36
in three times $(30/36)^3$

Then, the Probability of rolling at Least one 7 is = $1 - (30/36)^3 = 91/216 = ,421$

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7) same solution of (5) but delet one case

20 - case of 2 books the shouldn't both be

Chosen.

$20 - 1 = 19$

8)

A) First: $2^5 = 32$

next we need to choose 9 from 20

$20C9 = 167960$

$32 \times 167,960 = 5,350,720$

B) $1 \times 1 \times 1 \times 1 \times 1 \times 20C4 = 4,845$

B.E.