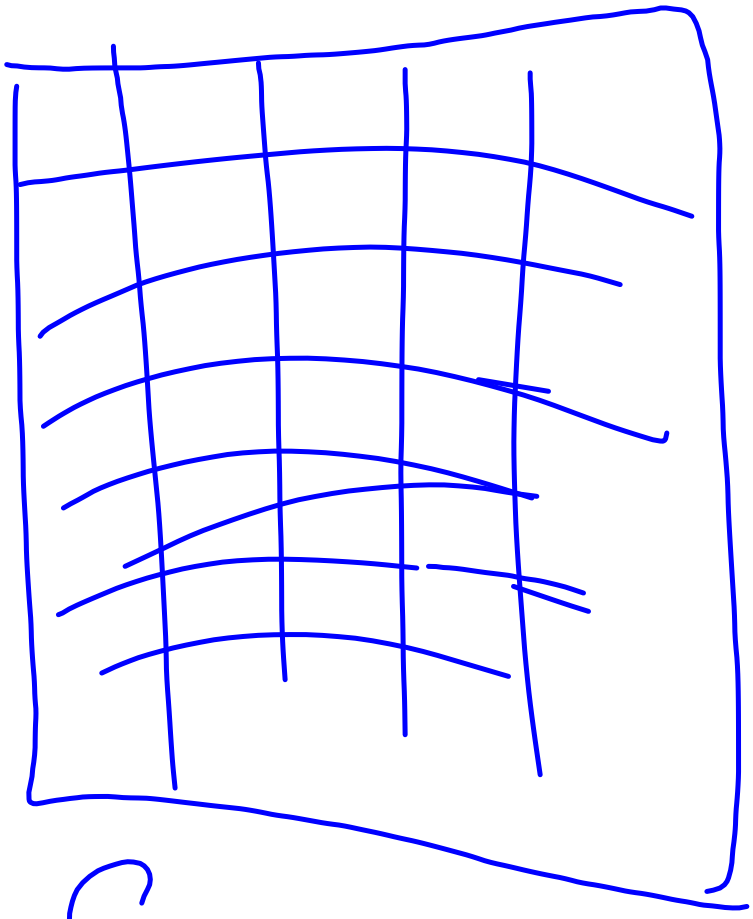
6 cus 49

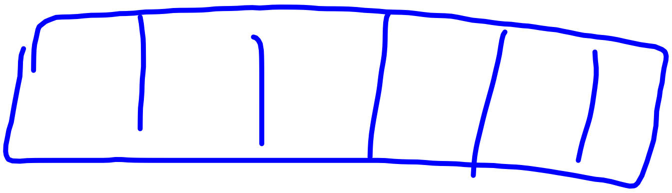


1 2
3 4
5 6

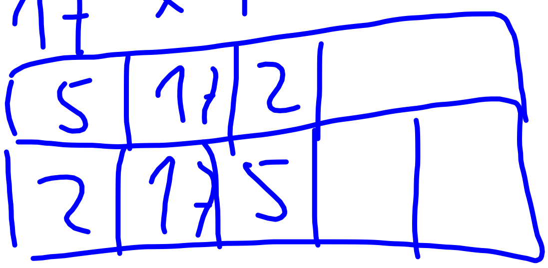
C

$$A_n^k = C_n^k \cdot k! =$$

$$\boxed{A_n^k = C_n^k \cdot P(k)}$$



1) 17 × 1



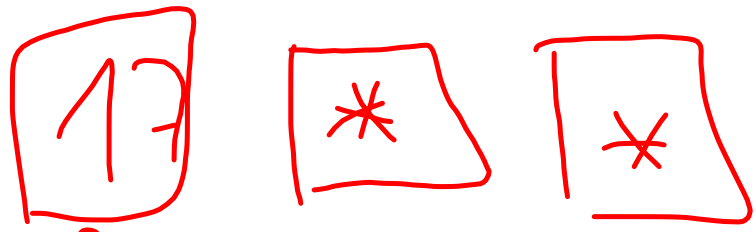
6 5 Pl.

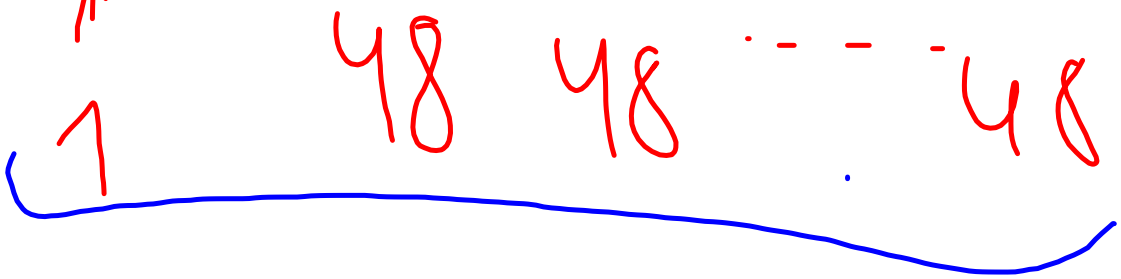
$$\boxed{6 \cdot A^5_{48}} \quad A^5_{48}$$

$49 \cdot \ldots \cdot 49 \cdot 49 \cdot 49$

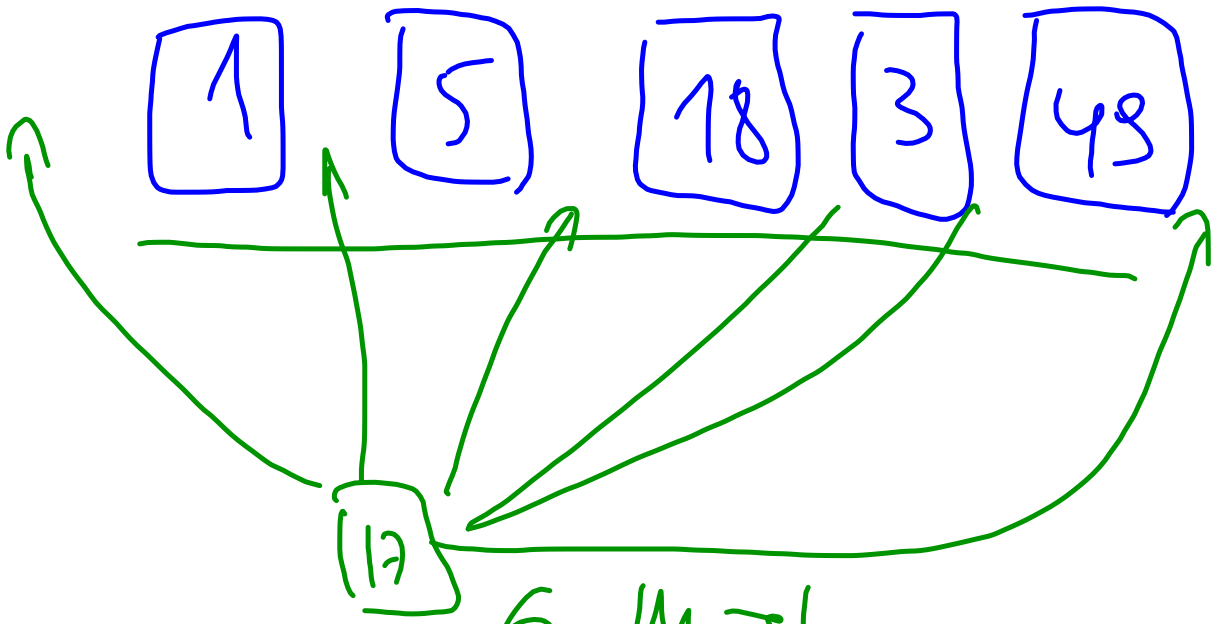
49^6

$$P(\text{Z hat genau eine 17}) = \frac{6 \cdot A_{48}^{5}}{2^3 \cdot 3^2}$$





$$P(17_1) = \frac{1 \cdot 48^5 \cdot 6}{49^6} = 0{,}11$$

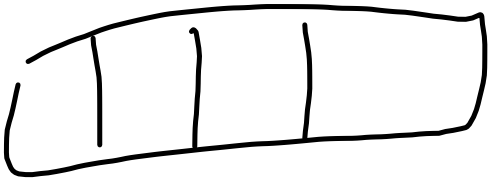


6 Mögl.

17 1 5 18 . . . .

1 17 . . . . .

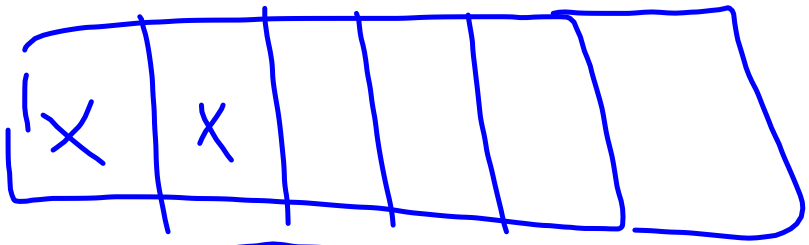
2 x 17 ?



17 17

$48 \cdot 48 \cdot 48 \cdot 48 = 48^4$

$6 \cdot 5 / 2$



$$C_6^2 = \frac{6!}{4!\,2!} = \frac{6 \cdot 5}{2}$$

$$P(2\times 17) = \frac{48^4 \cdot \frac{6\cdot 5}{2}}{49^6} =$$

$$= 0{,}006$$

$$3\times 17$$

$$P(3\times 17) = \frac{C_6^3 \cdot 48^3}{49^6}$$

$$C_6^3 = \frac{6!}{3!3!} =$$

$$= \frac{6 \cdot 4 \cdot 5}{3!} = 4 \cdot 5 = 20$$

15 Autofarben
(verschieden auch grün)

7 Parkplätze (immer besetzt)

Wie wahrscheinlich ist es,
dass unter 7 geparkten Autos
mindestens 1 grünes Wagen
steht?

$$P(1_g \cup 2_g \cup 3_g \cup 4_g \cup 5_g \cup \ldots \cup 7_g)$$

disjunkt

$$= P(1_s) + P(2_s) + \ldots + P(7_g)$$

$P(1_g)$: