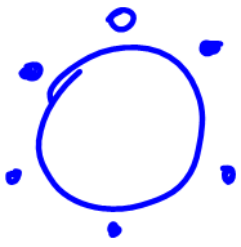


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$$\text{حالت} = 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 362880$$



$$(6-1)! = 5! = 120$$

$$\frac{(6-1)!}{2} = \frac{120}{2} = 60$$

$$\binom{6}{2} \times 5! = \frac{6!}{2!4!} \times 5! = 15 \times 120 = 1800$$

$$\binom{6}{2} \times (4-1)! = \frac{6 \times 5}{2} \times 3 \times 2 = 45$$

$$\binom{5}{2} \times \frac{(4-1)!}{1} = \frac{5 \times 4}{2} \times \frac{3 \times 2}{1} = 120$$

6

a, b, ~~c~~, d, e, f

↓

$$\binom{5}{2} \times 4! = \frac{5 \times 4}{2} \times 4 \times 3 \times 2 \times 1 = 120$$

7

cd, a, b, e, f

$$4! = 120$$

8

$\begin{matrix} c \\ \uparrow \\ d \\ \downarrow \\ a \end{matrix}$ , a, b, e, f

$$2! \times 4! = 120$$

9

$$\binom{5}{2} \times 4! = \frac{5!}{2!1!} \times 4! = 120$$

10

$(c, d, e), a, b, f$

$$3! \times 4! = 144$$

11

$c, -, -, d, -, e$

$$\binom{4}{3} \times 3! = \frac{4!}{1!3!} \times 3! = 12.$$

12

$c, -, d, -, -, a$

$$\binom{5}{3} \times 3! = \frac{5!}{2!3!} \times 3! = 12.$$

13

$$\binom{4}{2} \times \binom{4}{2} \times 2! = \frac{4 \times 3}{2} \times \frac{4 \times 3}{2} \times 2 = 18.$$

14

$(\dots) \dots \dots$

$$4! \times 2! = 144 \dots$$

15



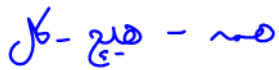
$$4! \times 5! \times 5! = 28800$$

16



$$\binom{5}{0} \times 5! \times 0! = 120$$

17



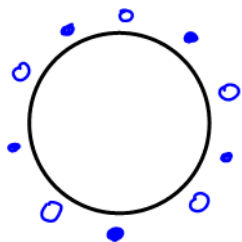
$$1! - \binom{5}{0} \times 5! \times 0! - 5! \times 0! = 1! - 120 - 120 = -239$$

18



$$5! \times 5! \times 2 = 28800$$

19



$$5! \times 4! = 120 \times 24 = 2880$$

20