

a, b, c, d, e, f

(5) Permutation

1. $4!$

2. $(4-1)! = 3!$

3. $\frac{4!}{4}$

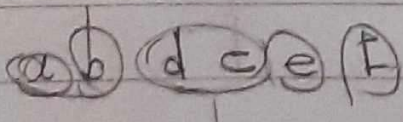
4.
$$\binom{4}{1} \times 4! = \frac{4!}{1! \cdot 3!} \times 4! = 4 \times 3! = 24$$

5.
$$\binom{4}{2} \times \frac{4!}{(4-2)!} = \frac{4!}{2! \cdot 2!} \times \frac{4!}{2!} = \frac{4!}{2!} \times \frac{4!}{2!} = 6 \times 6 = 36$$

6.
$$\frac{4 \times 3 \times 2 \times 1 \times 1 \times 1 \times 1 \times 1}{4 \times 3 \times 2 \times 1} = 1$$

7.
$$\binom{4}{3} \times \frac{4!}{4} = \frac{4!}{3! \cdot 1!} \times \frac{4!}{4} = \frac{4!}{3!} \times \frac{4!}{4} = 4 \times 3! = 24$$

8.
$$\binom{4}{4} \times 4! = \frac{4!}{4! \cdot 0!} \times 4! = 1 \times 4! = 24$$



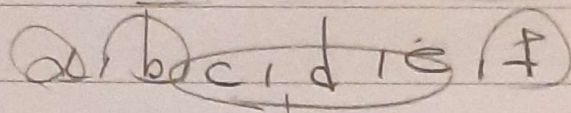
0!

طالب
۱۰! x ۲!

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۱۰! x ۲! = ۱۰ x ۹ x ۸ x ۷ x ۶ x ۵ x ۴ x ۳ x ۲ x ۱ x ۲ x ۱ = ۱۰۰۰۰۰۰۰۰ x ۲ = ۲۰۰۰۰۰۰۰۰
← ۲

- 10



- 11

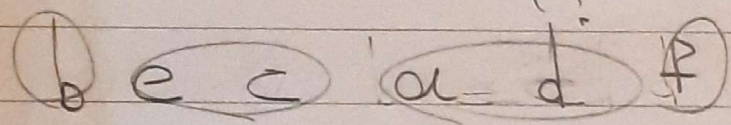
$10! \times 2! = 10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 \times 2 \times 1 = 100000000 \times 2 = 200000000$

$\frac{10!}{2!} = 100000000$

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$\frac{10!}{2!} = 100000000$

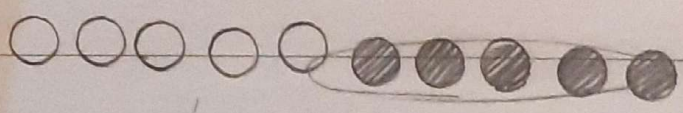
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$\frac{10!}{2! \times 2!} = 10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 \div (2 \times 2) = 100000000 \div 4 = 25000000$

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$10! \times 10! = 10000000000$

$10! - 10! = 0$

کتاب (۱)

$$\omega_1 \times \omega_1 \times \psi_1 = 21100$$

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$$\omega_1 \times \omega_1 \times \psi_1 = 21100$$

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$$\omega_1 \times \omega_1 \times \psi_1 = 21100$$

2

$$\psi_1 = (\psi_{10} + \psi_{100})$$

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$$10! = \omega_1 \psi_1 + \omega_1 \omega_1 \psi_1$$

$\psi_1 \times \psi_1$

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$$\frac{\omega_1! \times \omega_1! \times \psi_1}{\omega_1! \times \omega_1! \times \psi_1}$$

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$$\omega_1 \times \psi_1 = 21100$$