

Date:

Sub:

۱۸، ۱۵

تکلیف شماره ۴

دستم دخترانه A

زهره اصفهانی

a, b, c, d, e, f

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۹!

①

$$(9-1)! = 8!$$

①

۲

$$\frac{(9-1)!}{2} = \frac{8!}{2}$$

①

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$$\binom{9}{8} \times 8! = \frac{9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1} = 9 \times 1 = 9$$

①

۴

$$\binom{9}{7} \times 7! = 9 \times 7 = 63$$

①

۵

$$\binom{9}{6} \times \frac{7!}{2} = 9 \times \frac{7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{2} = 9 \times 42 = 378$$

①

۶

a, b, c, d, e, f

①

$$\binom{9}{5} \times 4! = \frac{9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{4 \times 3 \times 2 \times 1} = 9 \times 24 = 216$$

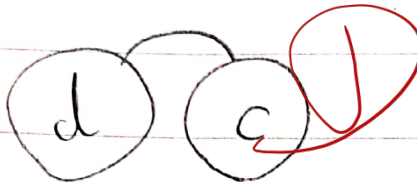
۹۹

$$\underbrace{a}_{1} \underbrace{b}_{2} (\underbrace{d}_{3} \underbrace{c}_{4}) \underbrace{e}_{5} \underbrace{f}_{6} \rightarrow 2!$$

1

$$a b (d c) e f \rightarrow 2! \times 2! = 4$$

2

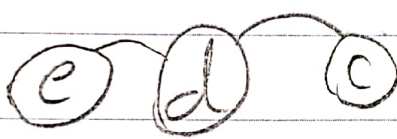


$$\frac{4!}{2!} = \frac{4 \times 3 \times 2 \times 1}{2 \times 1} = 4$$

3

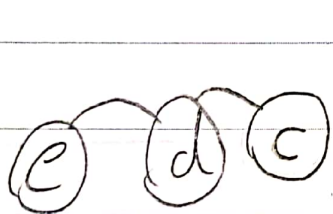
$$\underbrace{a}_{1} \underbrace{b}_{2} (\underbrace{e}_{3} \underbrace{d}_{4} \underbrace{c}_{5}) \underbrace{f}_{6} \rightarrow 3! \times 2! = 12$$

4



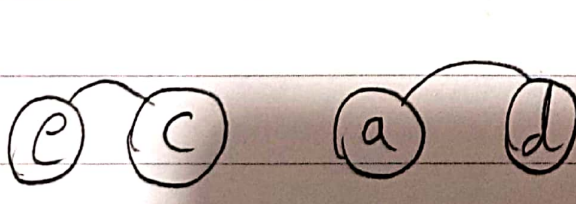
$$\frac{4!}{3!} = 4$$

5



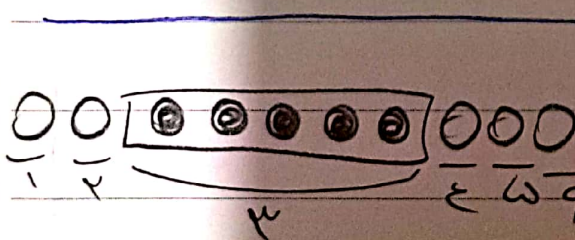
$$\frac{4!}{3!} = 4$$

6



$$\frac{4!}{2! \cdot 2!} = 6$$

7



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$$\frac{4!}{2! \cdot 2!} = 6$$

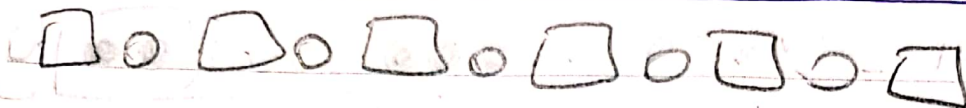
8



14

1

$$2! \times \omega! \times \omega! = 2 \times 1 \times 1 = 2$$



15

1

$$\binom{4}{\omega} = 4 \quad 4 \times \omega! \times \omega! = 14 \times 1 = 14$$

بعضی سبب‌ها، چون سبب‌ها یعنی حداقل ۲ روی سبب‌ها، کم باشند

16

0

~~$$1! = 1 \times 1 = 1 \times 1 \times 1 = 1 \times 1 \times 1 = 1$$~~

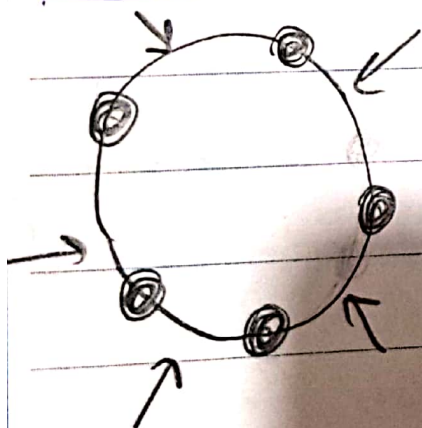
سوال قبل $1! = (\omega! \times 4! + \binom{4}{\omega} \times \omega! \times \omega!)$
 $1! = 1 \times 1 + 4 \times 1 \times 1 = 5$



17

$$\omega! \times \omega! \times 2 = 2 \times 1 \times 1 = 2$$

1



18

$$E! \times \omega! = 2 \times 1 \times 1 = 2$$

1