

1) $1! \cdot 4! = 24$ (1)

2) $7! \binom{7}{4} = 840$ (1)

3) $11! - 1! \cdot 4! - 7! \binom{7}{4} = 11! - 24 - 840$ (1)

4) $2! \cdot 4! \cdot 4! = 1152$ (1)

5) $2! \cdot 2! \cdot 2! \cdot 4! = 192$ (1)

6) $4 \times 4 \times 4 = 64$ (1) $4 \times 4 \times 4 = 64$ (1)

7) $4 \times 4 \times 3 = 48$ (1) $4 \times 4 \times 1 = 16$ + $4 \times 4 \times 2 = 32$ = 48 (1)

8) $4 \times 4 \times 2 = 32$ (1) $3 \times 3 \times 2 = 18$ (1)

9) $2 \times 4 \times 3 = 24$ (1) $1 \times 4 \times 3 = 12$ + $1 \times 4 \times 2 = 8$ = 20 (1)

10) $1 \times 4 \times 2 = 8$ (1) $1 \times 3 \times 2 = 6$ (1)

11) $1 \times 4 \times 4 = 16$ (1) $1 \times 4 \times 4 = 16$ (1)

12) $\rightarrow \dots, \underline{0\varepsilon}, \underline{1\varepsilon}, \underline{2\varepsilon}, \underline{3\varepsilon}, \underline{4\varepsilon}, \underline{5\varepsilon}, \underline{6\varepsilon}$

$\binom{6}{0} = \binom{6}{6} = \boxed{2^6} = 64$ $\binom{6}{1} = \binom{6}{5} = \boxed{6}$ $\binom{6}{2} = \binom{6}{4} = \boxed{15}$ $\binom{6}{3} = \binom{6}{3} = \boxed{20}$

13) $\rightarrow \underline{00}, \underline{10}, \underline{20}, \underline{30}, \underline{40}$

$\binom{4}{0} = \binom{4}{4} = \boxed{1}$ $\binom{4}{1} = \binom{4}{3} = \boxed{4}$ $\binom{4}{2} = \binom{4}{2} = \boxed{6}$ $\binom{4}{3} = \binom{4}{1} = \boxed{4}$ $\binom{4}{4} = \binom{4}{0} = \boxed{1}$

14) $\frac{4!}{2!2!} = \boxed{6}$

15) $\frac{4!}{2!2!} = \boxed{6}$

16) $\binom{3}{1} + \binom{3}{2} + \binom{3}{3} = 3 + 3 + 1 = \boxed{7}$

17) $\binom{4}{2} \binom{4}{2} = \frac{4 \times 3}{2} \times \frac{4 \times 3}{2} = \boxed{36}$

18) $\frac{1!}{1!0!} = \binom{1}{1} = \binom{1}{0} = \boxed{1}$

19) $\binom{10}{5} = \frac{10!}{5!5!} = \boxed{252}$

20) $\binom{4}{0} + \binom{4}{1} + \binom{4}{2} = 1 + 4 + 6 = \boxed{11}$