

Cheatsheet: Permutation Combination Probability

Theory

Formula

Choosing r out of n options can be represented as

$$C(n, r) = \frac{n!}{(n-r)!r!}$$

Tips

If the arrangement should always begin or end with a particular item, its order is fixed.
Hence the remaining $n-1$ items can be arranged in $(n-1)!$ ways.

Solved Example

MULTIPLE CHOICE QUESTION

Try yourself: How many 3 digit number can be formed with the digits 5, 6, 2, 3, 7 and 9 which are divisible by 5 and none of its digit is repeated?

A 12

B 16

C 20

D 24

E None of these

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MULTIPLE CHOICE QUESTION

Try yourself: In how many different ways can the letter of the word ELEPHANT be arranged so that vowels always occur together?

A 2060

B 2160

C 2260

D 2360

E None of these

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MULTIPLE CHOICE QUESTION

Try yourself: A fruit basket contains 4 oranges, 5 apples and 6 mangoes. The number of ways a person make selection of fruits from among the fruits in the basket is?

A 269

B 280

C 209

D 256

E None of these

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MULTIPLE CHOICE QUESTION

Try yourself: There are 15 points in a plane out of which 6 are collinear. Find the number of lines that can be formed from 15 points.

A 105

B 90

C 91

D 95

E None of these

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MULTIPLE CHOICE QUESTION

Try yourself: In how many ways 4 Indians, 5 Africans and 7 Japanese be seated in a row so that all person of same nationality sits together

A $4! 5! 7! 3!$

B $4! 5! 7! 5!$

C $4! 6! 7! 3!$

D can't be determined

E None of these

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Mind Map: Permutation & Combination

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(<https://edurev.in/t/489777/Mind-Map-Permutation-Combination>)

Solved Examples: Permutations and Combinations

Video | 64:51 min



(<https://edurev.in/v/447175/Solved-Examples-Permutations-and-Combinations>)

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