

Other: Counting Outcomes Using Combinations

SIMULATED PRACTICE ITEM — NOT AN OFFICIAL AMC PROBLEM

Practice problem

A mathematics club has 8 members. How many different groups of 3 members can be selected?

Problem-solving approach

Use combinations because the order in which members are selected does not matter.

Worked solution

1. Choose 3 of the 8 members without regard to order.
2. Number of combinations = $8! / (3! \times 5!)$.
3. Simplify: $(8 \times 7 \times 6) / (3 \times 2 \times 1) = 56$.

Answer

56

Problem-solving note

First decide whether order matters. Counting ordered arrangements would overcount each three-person group.

Prototype metadata

Math Topic	Other
Problem-Solving Method	Logical Reasoning
Resource Type	Problem & Solution
AMC Level	Not applicable — original practice problem
Student Contributor	Prototype demonstration; not Roy Park’s work
AMC Source	Not applicable
Key Concepts / Formulas	Combinations; factorials; counting
Suggested Learning Level	Grades 9–12; introductory combinatorics
Original Source / Reference	Original simulated example for testing Stacks

Created solely to test Stacks item display, filtering, and the View Solution attachment. No official AMC question or solution is reproduced.