

2025 Sept AMC 10 Week 1 Day 3 - Combination

- 1 How many non-negative integer solutions does the equation $x + y + z + t = 6$ have?
- A. 72 B. 76 C. 84 D. 90 E. 92
- 2 If three vertices are chosen at random from a regular decagon, the probability that the chosen three points form a right triangle is () .
- A. $\frac{1}{4}$ B. $\frac{1}{3}$ C. $\frac{1}{2}$ D. $\frac{2}{3}$
E. $\frac{3}{4}$
- 3 Four volunteers A, B, C , and D are assigned to three soccer fields for volunteer service. Each volunteer must be assigned, and each soccer field must have at least one volunteer. However, A and B cannot be assigned to the same soccer field. How many different assignment plans are there?
- A. 24 B. 28 C. 30 D. 36 E. 42
- 4 A science and technology expo is held in a certain place with 3 exhibition halls. There are 24 volunteer slots to be assigned to these 3 halls, with the requirements that each hall receives at least one slot and the numbers of slots assigned to the halls are all different. How many different assignment methods are there?
- A. 222 B. 244 C. 253 D. 276 E. 284
- 5 Assign 6 doctors to units A, B , and C for nucleic acid testing, with 2 doctors assigned to each unit. Doctor a cannot go to unit A , and doctor b can only go to unit B . How many different assignment methods are there?
- A. 18 B. 24 C. 30 D. 36 E. 42