Think Academy

2025 Sept AMC 8 Week 1 Day 1 - Counting Principles

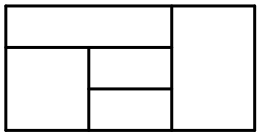
1 From City A to City B, one can travel by bus, ship, or train. The bus runs 3 times a day, the ship 2 times a day, and the train 6 times a day. In total, how many different ways are there that travel from City A to City B in one day?

A. 7 B. 9 C. 11 D. 13 E. 15

2 Four students form a study group. A leader and a deputy leader are to be chosen from among the four. In total, there are _____ different ways to make this selection.

A. 6 B. 8 C. 10 D. 12 E. 14

3 4 colors are available (not necessary to use all) to paint each part of the figure below. If the colors in adjacent parts cannot be the same, how many ways of painting are there?



A. 144 B. 288 C. 72 D. 36 E. 6

4 In a certain school's ballroom dance troupe, there are 43 members in total. Among them, 15 can dance Latin, 13 can dance Tango, and 5 can dance both. The number of people who can dance neither of these two dances is _____ .

A. 18 B. 20 C. 22 D. 24 E. 26

5 Among 40 students solving three math problems, 25 solved the first problem correctly, 28 solved the second problem correctly, and 31 solved the third problem correctly. How many students solved all three problems correctly, at least.

A. 3 B. 4 C. 5 D. 6 E. 7