

Level I: If I have 5 pairs of pants and 3 shirts, how many different outfits can I make?

Level II: I have 10 sandwich toppings and I must choose 5. How many different sandwiches can I have?

Level III: Research indicates that education policy committees, where at least 50% of the members are teachers, create successful policies 70% of the time. Each policy decision is made independently of the others. In a given year, 50 policies are made. What is the probability that exactly 42 of these 50 policies will be successful?

★ **Final challenge** ★: An archer has a probability of 0.7 that she will hit her target. If she shoots at the target 9 times, what is the probability she will hit the target exactly 8 times?

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