

**[10-11-08-T21]**

*counting combinations*

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■ **Question # 1**

Recall the ice cream treat problem. Given 4 flavors, 2 cone types, and 3 toppings, how many different ice cream treat are possible if each treat must include ice cream, a cone, and a topping? Now, a tree diagram makes obvious that we answer this question by computing the product  $4 \cdot 2 \cdot 3$ . But, why do we multiply?

■ **Question # 2**

Can you create a problem that leads to the computation of a sum rather than a product to get the answer?