17   The Eggnogg Chocolate Egg

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Challenge

From the last Easter egg hunt, Christmas elves Annelie and Bernd still have 111 nougat chocolate eggs and one single eggnogg chocolate egg left. The two simply did not manage to eat up the treats yet, because they have been too busy with Christmas preparations since April. Now, the eggs are past their best-before date, and, besides, Santa will certainly will bring them new sweets for Christmas. So, they have to speed up their consumption. Annelie loves eggnogg, but Bernd would also like to eat the last egg of this kind. Therefore, he suggests the following game: the 111 nougat eggs are placed in a bowl and the two elves take turns grabbing one to eight nougat eggs. Before each turn, they can decide how many eggs they want to take from the bowl. Whoever takes the last nougat egg may also have the eggnogg egg.

Bernd leaves it up to Annelie to decide whether or not to start. Which of the following decisions should Annelie make if she wants to have the eggnogg egg?

Artwork: Julia Nurit Schönnagel

1

Possible answers:

1. Annelie should make the first move, taking one nougat egg.

2. Annelie should make the first move, taking two nougat eggs.

3. Annelie should make the first move, taking three nougat eggs.

4. Annelie should make the first move, taking four nougat eggs.

5. Annelie should make the first move, taking five nougat eggs.

6. Annelie should make the first move, taking six nougat eggs.

7. Annelie should make the first move, taking seven nougat eggs.

8. Annelie should make the first move, taking eight nougat eggs.

9. Annelie should make the first move, but it does not matter how many eggs she takes.

10. Annelie only has a chance to win if she lets Bernd make the first move.