

## Round Table

King Arthur once invited all his Knights of the Round Table to his castle, where they stayed for several days. Each evening, the king and his guests dined at the famous Round Table. According to the king's decree, they took different seats on different evenings, and *no two people sat next to each other more than once*. When the knights could no longer satisfy this decree, they left the king's castle. What is the maximal number of days they could have stayed in the castle?

1. Determine the maximal number of days for each of the following cases and fill in the empty cells of the table.

Number of people ( $n$ )	Maximal number of days
3	1
5	2
7	
11	
23	
239	

2. Give a formula for the maximal number of days, in terms of the number  $n$  of people, and briefly explain your answer.