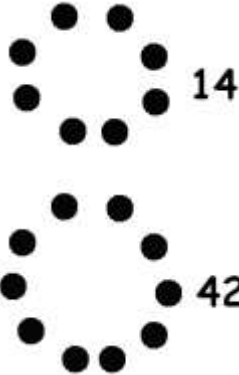


# WITHOUT WORDS

*Mathematical Puzzles to Confound and Delight*



## WW 34: SOLUTION



This question is asking:

*In how many ways could  $N$  people sitting around a table ( $N$  an even number) simultaneously reach across and shake hands so that no sets of arms cross?*

This problem (well a similar version to it) was first posed in 1751 by Leonhard Euler. It leads to the sequence of numbers: 1, 2, 5, 14, 42, 132, 429, 1430, ..... These numbers have appeared over and over again in different contexts throughout mathematics and are today known as the Catalan Numbers.