Qun 7

1) Guido Grandi "Creation from Nothing"
He got the result based on the case of a father who gives a gem to his 2 sons who may keep it one year in alternation. It then belongs to each son one half

2) Mme Du Chatelet. translated it.
Voltaire wrote 'Lettres sur les Anglais'

3) Lagrange

4) $\begin{pmatrix}1&9\\9&1\end{pmatrix}\begin{pmatrix}2&8\\8&2\end{pmatrix}\begin{pmatrix}3&7\\7&3\end{pmatrix}\begin{pmatrix}4&5&6\\5&6&4\end{pmatrix}$

2 2 2 3

find lcm to find π^i in the identity

$lcm(2,2,2,3) = 6 \rightarrow \pi^6$ is identity perm.

5) We see that the start matrix has inversions equal 0. We see that the 'final' matrix has 3 inversions which are (32, 31, 21). Based on that, we see that it is impossible for the start matrix to reach the final one shown as we start with an even number of inversions in the start and the final state matrix is odd number of inversions. It is impossible to go from the start matrix $0+3+3=6$ (inv, row col.) to the 'final' state, as the parity of π's is odd $3+3+3=9$