Quiz 17

1.Guido Grandi stated this result. He made an unrigorous proof comparing the problem to a father splitting a prized jewel between his two sons

2. The translator was Du Chatelet. Lettres sur les Anglais was written by Voltaire

3. Lagrange

4. (1 9) (2 8) (3 7) (4 5 6)

The smallest i would be the LCM of the lengths of the disjoint cycles, so i=6

5. In any legal move, the number of inversions changes by an odd number (as stated in the lemma). We can define the invariant as the sum of the change in the number of inversions and the taxicab distance of the blank spot from the top left corner. In doing so, we would discover that the invariant cannot change by an odd number. Since the left and right scenarios are of even and odd invariance, we must conclude that this problem is impossible to solve.