We want to find a subgraph of the 4-cube Q_4 (Figure 1) which is homeomorphic to the complete graph on 5 vertices K_5. We claim that the blue graph in Figure 2 does the job. Figures 3 to 8 illustrate the six

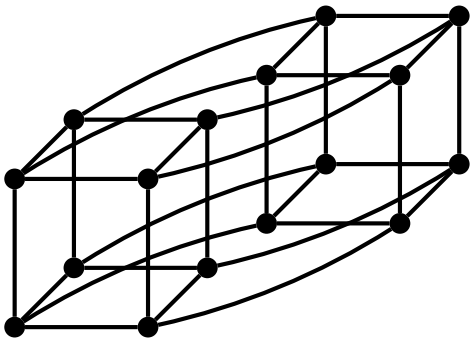

Figure 1: The 4-cube Q_4.

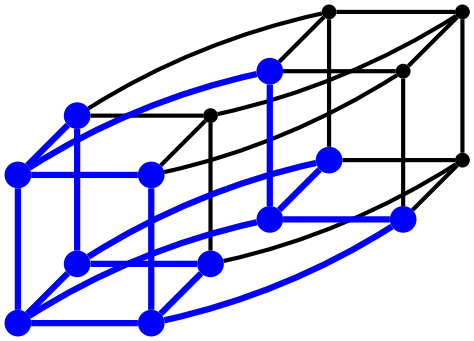

Figure 2: The subgraph.

series reduction steps. In each step the red vertex in the graph on the left has degree 2. We delete this vertex and connect its two neighbours by an edge to obtain the graph on the right. After six steps we obtain K_5, which demonstrates that our initial blue graph is homeomorphic to K_5.

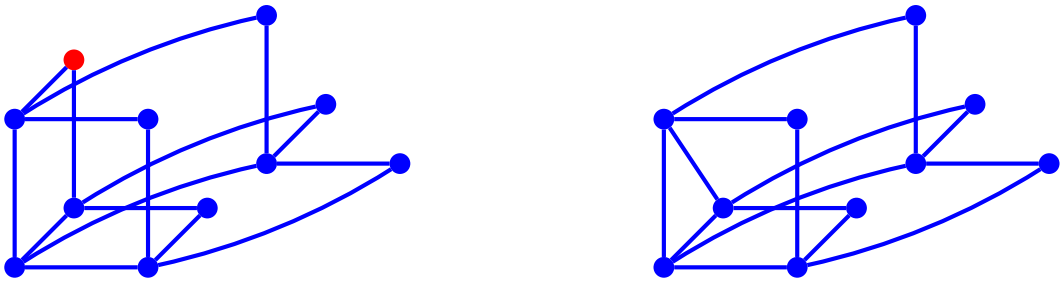

Figure 3: The first series reduction.

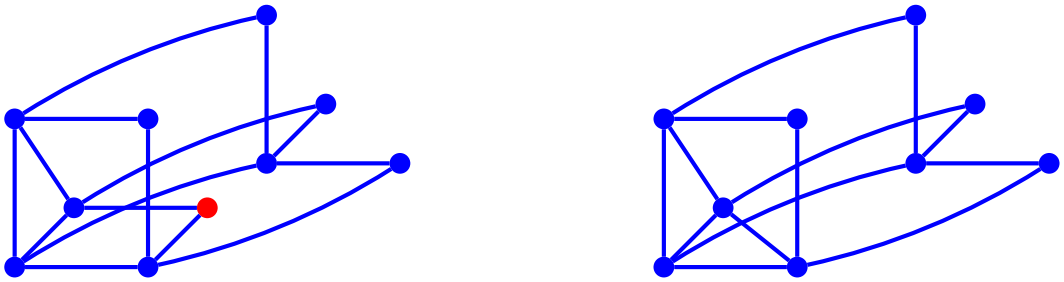

Figure 4: The second series reduction.

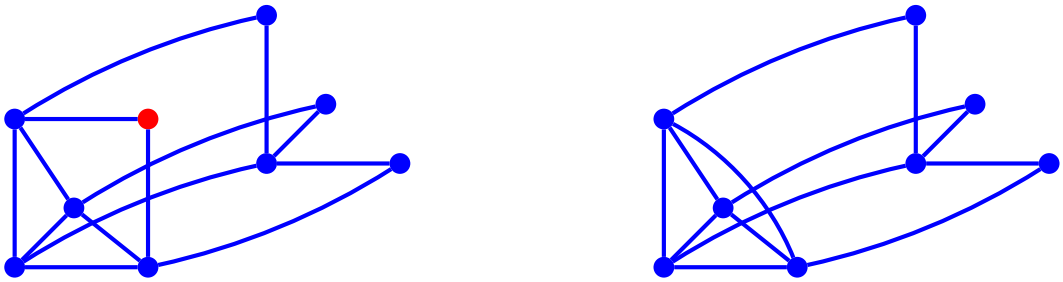

Figure 5: The third series reduction.

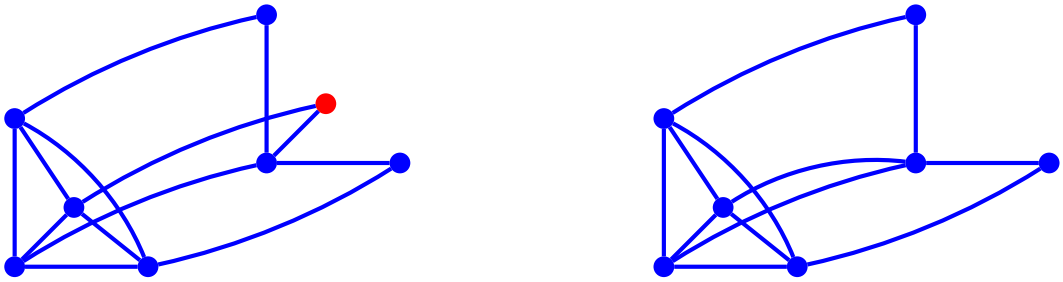

Figure 6: The fourth series reduction.

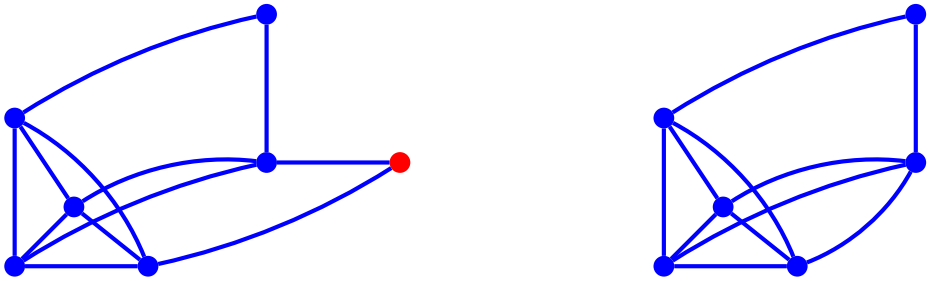

Figure 7: The fifth series reduction.

Figure 8: The sixth series reduction.