Answer on Question 37899 – Math – Graph theory

What is the number of perfect matchings of K6? Explain.

Let us remember what the matching, perfect matching, number of perfect matching and K6 are.

A matching in a graph is a set of edges without common vertices.

A perfect matching is a matching which matches all vertices of the graph.

The matching number $\nu(G)$ of a graph G is the size of a perfect matching.

And K6 is a complete graph with 6 vertices.

Since each vertex is part of exactly one edge than we get

$$\nu(K6) = \frac{6}{2} = 3.$$

To better understanding look at the figure