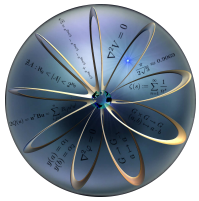

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proof of Veblen's theorem

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The proof is very easy by induction on the number of elements of the set E of edges. If E is empty, then all the vertices have degree zero, which is even. Suppose E is nonempty. If the graph contains no cycle, then some vertex has degree 1, which is odd. Finally, if the graph does contain a cycle C, then every vertex has the same degree mod 2 with respect to $E - C$, as it has with respect to E, and we can conclude by induction.