

## Graph Theory: List of Theorems

- A graph  $G$  is bipartite if and only if it contains no odd cycle.
- Cayley's Formula
- Mader's Theorem.
- Menger's Theorem.
- Euler's Theorem.
- Dirac's Theorem.
- The Chvátal-Erdős Theorem.
- Hall's Theorem.
- In any bipartite graph, the maximum size of a matching is equal to the minimum size of a vertex cover.
- Tutte's Theorem.
- Petersen's Theorem.
- The chromatic index of any bipartite graph is equal to its maximum degree.
- Vizing's Theorem.
- Brooks' Theorem.
- Turán's Theorem.
- Ramsey's Theorem.
- Euler's Formula for planar connected graphs.
- The Four Color Theorem (with a proof that five colors suffice).