

## Summary of West 5.3: Enumerative Aspects

A chordal graph is a simple graph that does not have a chordless cycle (meaning an induced cycle of length at least 4).

Theorem: Graph is chordal if and only if it has a simplicial elimination ordering. A simplicial vertex is one whose neighborhood is complete.

As a consequence we get that chordal graphs have chromatic number equal to clique number. If a graph and all its induced subgraphs have chromatic number equal to clique number, then it is called perfect.

Theorem: Graph is chordal if and only if it is the intersection graph of subtrees of a tree (and so generalizes interval graphs). (Proof omitted.)