



## Why

We generalize trees and discuss an example of chordal graphs.<sup>1</sup>

## Definition

Let  $k \in \mathbf{N}$ . A  $k$ -tree is defined indirectly. Let  $G = (V, E)$  be a complete graph and  $|V| = k$ .

The complete graph on  $k$  vertices is an undirected graph with at least  $k$  vertices. The only  $k$ -tree with  $k$  vertices is the complete graph.

## Chordality

**Prop. 1.** *All  $k$ -trees are chordal.*

*Proof.* Induction on  $k$ -tree with  $k$  vertices.

□

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<sup>1</sup>Future editions will modify, and may introduce  $k$ -trees without chordal graphs.



