

Requiring Chords in Cycles

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Abstract

R. E. Jamison proved that every cycle of length greater than three in a graph has a chord—in other words, the graph is chordal—if and only if every k -cycle is the sum of $k - 2$ triangles. This result generalizes to having or not having crossing chords and to having strong chords, with similar characterizations of a variety of graph classes that includes chordal bipartite, distance-hereditary, and strongly chordal graphs.