

## Triangle Degrees

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The triangle degree of a vertex  $v$  is the number of triangles (copies of  $K_3$ ) which contain  $v$ . We study properties of realizable triangle degree sequences. Unlike with traditional degrees, for each  $n \geq 7$ , there exists a graph on  $n$  vertices such that all vertices have distinct triangle degrees. At the other extreme, we examine graphs where all vertices have the same triangle degree. In particular, for which  $n$  and  $k$  does there exist a graph with  $n$  vertices such that every vertex has triangle degree  $k$ ? We will share partial answers and constructions, as well as properties of triangle degrees under different graph operations.

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