

Edge contraction and forbidden induced graphs

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A graph G is H -free if any subset of $V(G)$ does not induce a subgraph of G that is isomorphic to H . Given a graph H , we present a sufficient and necessary conditions for a graph G such that G/e is H -free for any edge e in $E(G)$. Afterwards, we use these conditions to characterize forests, claw-free, $2K_2$ -free, C_4 -free, C_5 -free, and split graphs.

Keywords: forbidden induced subgraphs, edge contraction