Not every Steiner set is geodetic (a note on "The Steiner number of a graph")

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Abstract

We show by counterexample that one of the main results in the paper "The Steiner number of a graph", by Gary Chartrand and Ping Zhang, Discrete Mathematics 242 (2002) 41-54, does not hold. To be more precise, we prove both that not every Steiner set is a geodetic set and that there are connected graphs whose Steiner number is strictly lower that its geodetic number.

MSC: 05C12; 05C05

Keywords: correction; geodesic; geodetic set; geodetic number; Steiner set; Steiner number

References

[1] G. Chartrand, F. Harary and P. Zhang, On the geodetic number of a graph, *Networks* **39** (1) (2002), 1-6.

[2] G. Chartrand and P. Zhang, The Steiner number of a graph, *Discrete Math.* **242** (2002), 41-54.

[3] F. Buckley, F. Harary. *Distance in Graphs*. Addison-Wesley (1990).

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