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Malfatti Squares Triangle

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Abstract. By using the computer program "Machine for Questions and Answers", we find properties of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is studied by Floor van Lamoen and Paul Yiu (under the name Malfatti triangle) [3].

Given a triangle, the Machine for Questions and Answers produces theorems related to properties of the triangle. The Machine for Questions and Answers produces theorems related to properties of the Malfatti Squares Triangle:

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Symmedian Point.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Schoute Center.

The Malfatti Squares Triangle is similar to the Antipedal Triangle of the Centroid.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Symmedian Point.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Schoute Center.

The Malfatti Squares Triangle is similar to the Fourth Brocard Triangle.

The Malfatti Squares Triangle is similar to the Fourth Brocard Triangle of the Medial Triangle.

The Malfatti Squares Triangle is similar to the Malfatti Squares Triangle of the Medial Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Symmedian Point of the Medial Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Schoute Center of the Medial Triangle.

The Malfatti Squares Triangle is similar to the Antipedal Triangle of the Centroid of the

Medial Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Symmedian Point of the Medial Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Schoute Center of the Medial Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Symmedian Point of the Anticomplementary Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Schoute Center of the Anticomplementary Triangle.

The Malfatti Squares Triangle is similar to the Antipedal Triangle of the Centroid of the Anticomplementary Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Symmedian Point of the Anticomplementary Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Schoute Center of the Anticomplementary Triangle.

The Malfatti Squares Triangle is similar to the Fourth Brocard Triangle of the Anticomplementary Triangle.

The Malfatti Squares Triangle is similar to the Malfatti Squares Triangle of the Anticomplementary Triangle.

The Malfatti Squares Triangle is similar to the Medial Triangle of the Fourth Brocard Triangle.

The Malfatti Squares Triangle is similar to the Medial Triangle of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is similar to the Anticomplementary Triangle of the Fourth Brocard Triangle.

The Malfatti Squares Triangle is similar to the Anticomplementary Triangle of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is similar to the Fourth Brocard Triangle of the Euler Triangle.

The Malfatti Squares Triangle is similar to the Malfatti Squares Triangle of the Euler Triangle.

The Malfatti Squares Triangle is similar to the Fourth Brocard Triangle of the First Brocard Triangle.

The Malfatti Squares Triangle is similar to the Malfatti Squares Triangle of the First Brocard Triangle.

The Malfatti Squares Triangle is similar to the Euler Triangle of the Fourth Brocard Triangle.

The Malfatti Squares Triangle is similar to the First Brocard Triangle of the Fourth Brocard Triangle.

The Malfatti Squares Triangle is similar to the Johnson Triangle of the Fourth Brocard Triangle.

The Malfatti Squares Triangle is similar to the Inner Johnson-Yff Triangle of the Fourth Brocard Triangle.

The Malfatti Squares Triangle is similar to the Outer Johnson-Yff Triangle of the Fourth Brocard Triangle.

The Malfatti Squares Triangle is similar to the Euler Triangle of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is similar to the First Brocard Triangle of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is similar to the Inner Johnson-Yff Triangle of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is similar to the Outer Johnson-Yff Triangle of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is similar to the Fourth Brocard Triangle of the Johnson Triangle.

The Malfatti Squares Triangle is similar to the Fourth Brocard Triangle of the Inner Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Malfatti Squares Triangle of the Inner Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Fourth Brocard Triangle of the Outer Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Symmedian Point of the Euler Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Schoute Center of the Euler Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Symmedian Point of the

First Brocard Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Schoute Center of the First Brocard Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Circumcenter of the Fourth Brocard Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Circumcenter of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Symmedian Point of the Johnson Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Schoute Center of the Johnson Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Symmedian Point of the Inner Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Schoute Center of the Inner Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Symmedian Point of the Outer Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Pedal Triangle of the Schoute Center of the Outer Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Antipedal Triangle of the Centroid of the Euler Triangle.

The Malfatti Squares Triangle is similar to the Antipedal Triangle of the Centroid of the First Brocard Triangle.

The Malfatti Squares Triangle is similar to the Antipedal Triangle of the Orthocenter of the Fourth Brocard Triangle.

The Malfatti Squares Triangle is similar to the Antipedal Triangle of the Orthocenter of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is similar to the Antipedal Triangle of the Centroid of the Johnson Triangle.

The Malfatti Squares Triangle is similar to the Antipedal Triangle of the Centroid of the Inner Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Antipedal Triangle of the Centroid of the Outer Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Symmedian Point of the Euler Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Schoute Center of the Euler Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Symmedian Point of the First Brocard Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Schoute Center of the First Brocard Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Circumcenter of the Fourth Brocard Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Symmedian Point of the Johnson Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Schoute Center of the Johnson Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Symmedian Point of the Inner Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Schoute Center of the Inner Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Symmedian Point of the Outer Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Circumcevian Triangle of the Schoute Center of the Outer Johnson-Yff Triangle.

The Malfatti Squares Triangle is similar to the Inner Brocard Triangle of the Fourth Brocard Triangle.

The Malfatti Squares Triangle is similar to the Inner Brocard Triangle of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is homothetic to the Pedal Triangle of the Symmedian Point.

The Malfatti Squares Triangle is perspective with the Pedal Triangle of the Malfatti-Moses Point.

The Malfatti Squares Triangle is homothetic to the Antipedal Triangle of the Centroid.

The Malfatti Squares Triangle is homothetic to the Malfatti Squares Triangle of the Medial Triangle.

The Malfatti Squares Triangle is homothetic to the Pedal Triangle of the Symmedian Point

of the Medial Triangle.

The Malfatti Squares Triangle is homothetic to the Antipedal Triangle of the Centroid of the Medial Triangle.

The Malfatti Squares Triangle is similar to the Triangle of the Circumcenters of the Triangulation Triangles of the Centroid.

The Malfatti Squares Triangle is similar to the Triangle of the Nine-Point Centers of the Triangulation Triangles of the Centroid.

The Malfatti Squares Triangle is similar to the Triangle of the Orthocenters of the Triangulation Triangles of the Outer Fermat Point.

The Malfatti Squares Triangle is similar to the Triangle of the Orthocenters of the Triangulation Triangles of the Inner Fermat Point.

The Malfatti Squares Triangle is similar to the Stevanovic Triangle of the Orthocenters of the Triangulation triangles of the Symmedian Point.

The Malfatti Squares Triangle is similar to the Stevanovic Triangle of the Orthocenters of the Triangulation triangles of the Schoute Center.

The Malfatti Squares Triangle is similar to the Triangle of the Symmedian Points of the Corner Triangles of the Orthocenter.

The Malfatti Squares Triangle is similar to the Triangle of the Schoute Centers of the Corner Triangles of the Orthocenter.

The Malfatti Squares Triangle is similar to the Triangle of the reflections of the Symmedian Point in the sides of Triangle ABC.

The Malfatti Squares Triangle is similar to the Triangle of the reflections of the Schoute Center in the sides of Triangle ABC.

For any Triangle Center, the Malfatti Squares Triangle is similar to the Hatzipolakis Triangle of the Triangle Center.

The Malfatti Squares Triangle is homothetic to the Pedal Triangle of the Symmedian Point of the Anticomplementary Triangle.

The Malfatti Squares Triangle is homothetic to the Antipedal Triangle of the Centroid of the Anticomplementary Triangle.

The Malfatti Squares Triangle is homothetic to the Malfatti Squares Triangle of the Anticomplementary Triangle.

The Malfatti Squares Triangle is homothetic to the Malfatti Squares Triangle of the Johnson Triangle.

The Malfatti Squares Triangle is homothetic to the Malfatti Squares Triangle of the Inner Johnson-Yff Triangle.

The Malfatti Squares Triangle is homothetic to the Malfatti Squares Triangle of the Outer Johnson-Yff Triangle.

The Malfatti Squares Triangle is homothetic to the Pedal Triangle of the Symmedian Point of the Euler Triangle.

The Malfatti Squares Triangle is homothetic to the Pedal Triangle of the Schoute Center of the First Brocard Triangle.

The Malfatti Squares Triangle is homothetic to the Pedal Triangle of the Symmedian Point of the Johnson Triangle.

The Malfatti Squares Triangle is homothetic to the Pedal Triangle of the Symmedian Point of the Inner Johnson-Yff Triangle.

The Malfatti Squares Triangle is homothetic to the Pedal Triangle of the Symmedian Point of the Outer Johnson-Yff Triangle.

The Malfatti Squares Triangle is homothetic to the Antipedal Triangle of the Centroid of the Euler Triangle.

The Malfatti Squares Triangle is homothetic to the Antipedal Triangle of the Centroid of the Johnson Triangle.

The Malfatti Squares Triangle is homothetic to the Antipedal Triangle of the Centroid of the Inner Johnson-Yff Triangle.

The Malfatti Squares Triangle is homothetic to the Antipedal Triangle of the Centroid of the Outer Johnson-Yff Triangle.

The Malfatti Squares Triangle is homothetic to the Triangle of the Circumcenters of the Triangulation Triangles of the Centroid.

The Malfatti Squares Triangle is homothetic to the Triangle of the Orthocenters of the Triangulation Triangles of the Outer Fermat Point.

The Malfatti Squares Triangle is homothetic to the Triangle of the Orthocenters of the Triangulation Triangles of the Inner Fermat Point.

The Malfatti Squares Triangle is perspective with the Triangle of the Orthocenters of the Triangulation Triangles of the Malfatti-Moses Point.

The Malfatti Squares Triangle is homothetic to the Stevanovic Triangle of the Orthocenters of the Triangulation triangles of the Symmedian Point.

The Malfatti Squares Triangle is perspective with the Stevanovic Triangle of the

Orthocenters of the Triangulation triangles of the Malfatti-Moses Point.

The Malfatti Squares Triangle is homothetic to the Triangle of the Symmedian Points of the Corner Triangles of the Orthocenter.

The Malfatti Squares Triangle is perspective with the Triangle of the reflections of the Malfatti-Moses Point in the sides of the Medial Triangle.

The Malfatti Squares Triangle is perspective with the Triangle of the reflections of the Malfatti-Moses Point in the sides of the Anticomplementary Triangle.

The Malfatti Squares Triangle is perspective with the Triangle of the reflections of the Malfatti-Moses Point in the vertices of the Anticevian Triangle of the Outer Vecten Point.

The Malfatti Squares Triangle is perspective with the Triangle of the reflections of the vertices of the Medial Triangle in the Malfatti-Moses Point.

The Malfatti Squares Triangle is perspective with the Triangle of the reflections of the vertices of the Anticomplementary Triangle in the Malfatti-Moses Point.

The Malfatti Squares Triangle is homothetic to the Triangle of the reflections of the Symmedian Point in the sides of Triangle ABC.

The Malfatti Squares Triangle is perspective with the Triangle of the reflections of the Malfatti-Moses Point in the sides of Triangle ABC.

For any Triangle Center, the Malfatti Squares Triangle is homothetic to the Hatzipolakis Triangle of the Triangle Center.

The Malfatti Squares Triangle is perspective with the Inner Apollonius Triangle of the Excircles of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is perspective with the Outer Apollonius Triangle of the Excircles of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is perspective with the Inner Apollonius Triangle of the Soddy Circles of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is perspective with the Outer Apollonius Triangle of the Soddy Circles of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is perspective with the Inner Apollonius Triangle of the Malfatti Circles of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is perspective with the Outer Apollonius Triangle of the Malfatti Circles of the Malfatti Squares Triangle.

The Malfatti Squares Triangle is homothetic to the Outer Apollonius Triangle of the Lucas Circles of the Pedal Triangle of the Symmedian Point.

The Malfatti Squares Triangle is perspective with the Outer Apollonius Triangle of the Lucas Circles of the Pedal Triangle of the Malfatti-Moses Point.

The Malfatti Squares Triangle is homothetic to the Outer Apollonius Triangle of the Lucas Circles of the Antipedal Triangle of the Centroid.

The Malfatti Squares Triangle is perspective with the Inner Apollonius Triangle of the Lucas Circles of the Malfatti Squares Triangle.

Invitation

The reader is invited to submit a note/paper containing

- synthetic proofs of theorems from this paper,
- or, applications of theorems from this paper,
- or, additional references related to this paper.

Definitions

We use the definitions in accordance with [1 - 6] and papers published in this journal.

The Level

The Machine for Questions and Answers is used to produce results in this paper. Currently the Machine has 6 levels of depths - 0,1,2,3,4,5. We use for this paper the level 0, that is, the Machine produces only elementary results. If we need deeper investigation, we have to use a level bigger than 0. Since the Machine for Questions and Answers produces too many results, it is suitable we to use bigger levels upon request, that is, for specific questions.

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