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Gibert Point

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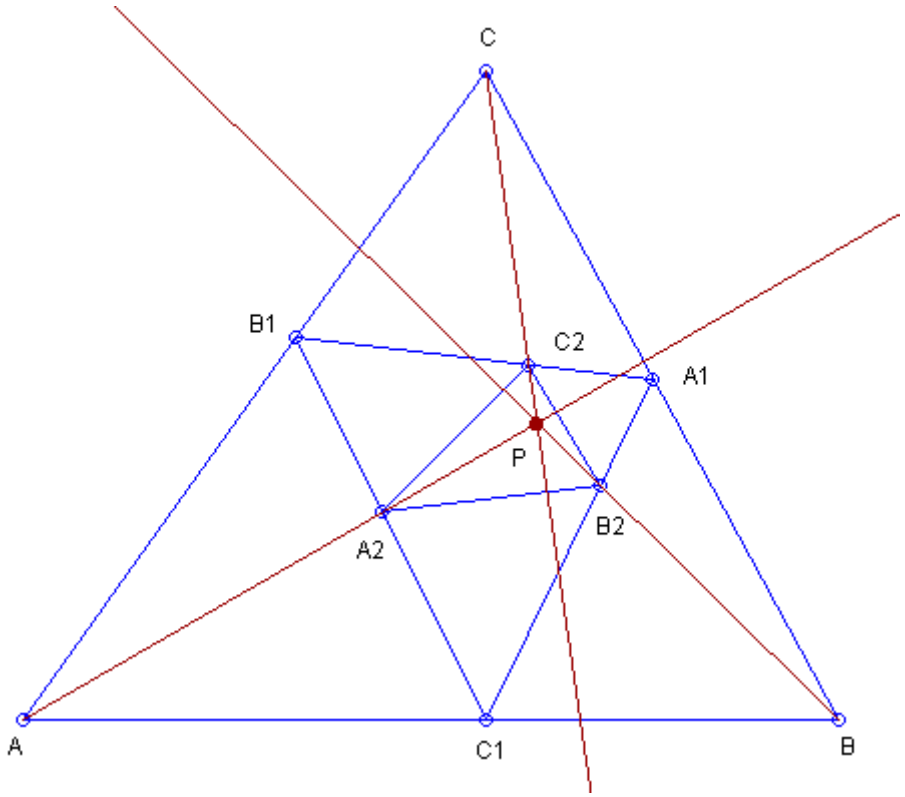
Abstract. By using the computer program "Machine for Questions and Answers", we find properties of the Gibert Point.

The *Gibert Point* is the perspector of Triangle ABC and the Orthic Triangle of the Orthic Triangle. The Gibert Point is named in honor of Bernard Gibert, one of the founders of modern Euclidean Geometry.

See the Figure:



$A_1B_1C_1$ - Orthic Triangle;
$A_2B_2C_2$ - Orthic Triangle of the Orthic Triangle;
P - Gibert Point = Prespector of triangles ABC and $A_2B_2C_2$.

Given a point, the Machine for Questions and Answers produces theorems related to properties of the point. The Machine for Questions and Answers produces theorems related

to properties of the Gibert Point:

Gibert Point = Perspector of the Cevian Triangle of the Gibert Point and the Circumcevian Triangle of the Gibert Point.

Gibert Point = Homothetic Center of the Tangential Triangle and the Circum-Orthic Triangle.

Gibert Point = Perspector of the Anticevian Triangle of the Gibert Point and the Circumcevian Triangle of the Gibert Point.

Gibert Point = Homothetic Center of Triangle ABC and the Triangle of the Gibert Points of the Corner Triangles of the Centroid.

Gibert Point = Homothetic Center of Triangle ABC and the Triangle of the reflections of the Orthocenter in the sides of the Orthic Triangle.

Gibert Point = Perspector of Triangle ABC and the Triangle of the reflections of the Gibert Point in the vertices of the Cevian Triangle of the Gibert Point.

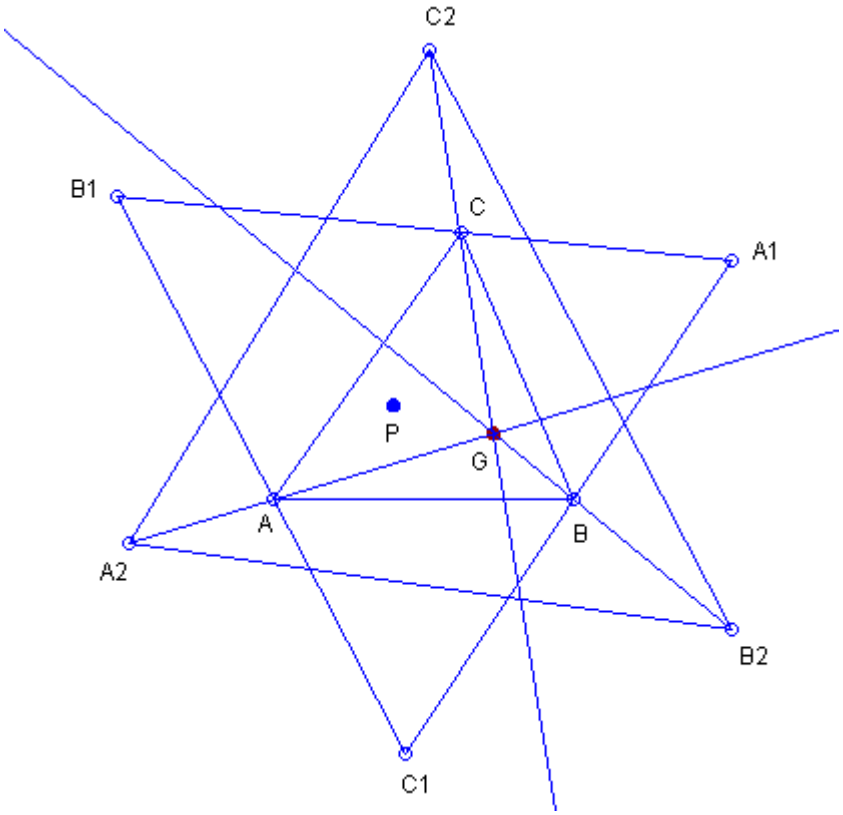
Gibert Point = Perspector of Triangle ABC and the Triangle of the reflections of the Gibert Point in the vertices of the Anticevian Triangle of the Gibert Point.

Gibert Point = Perspector of Triangle ABC and the Triangle of the reflections of the vertices of the Cevian Triangle of the Gibert Point in the Gibert Point.

Gibert Point = Perspector of Triangle ABC and the Triangle of the reflections of the vertices of the Anticevian Triangle of the Gibert Point in the Gibert Point.

Gibert Point = Perspector of Triangle ABC and the Triangle of the reflections of the Prasolov Point in the sides of the Excentral Triangle.

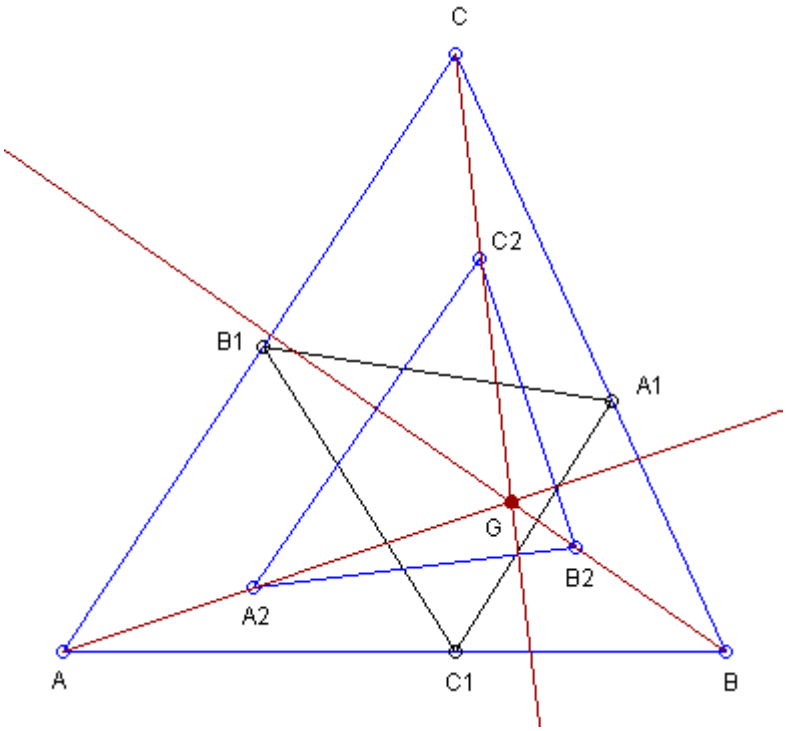
See the Figure:



$A_1B_1C_1$ - Excentral Triangle;
P - Prasolov Point;
$A_2B_2C_2$ - Triangle of the reflections of the Prasolov Point in the sides of the Excentral Triangle;
G - Gibert Point = Perspector of triangles ABC and $A_2B_2C_2$.

Gibert Point = Perspector of Triangle ABC and the Triangle of the Prasolov Points of the Corner Triangles of the Orthocenter.

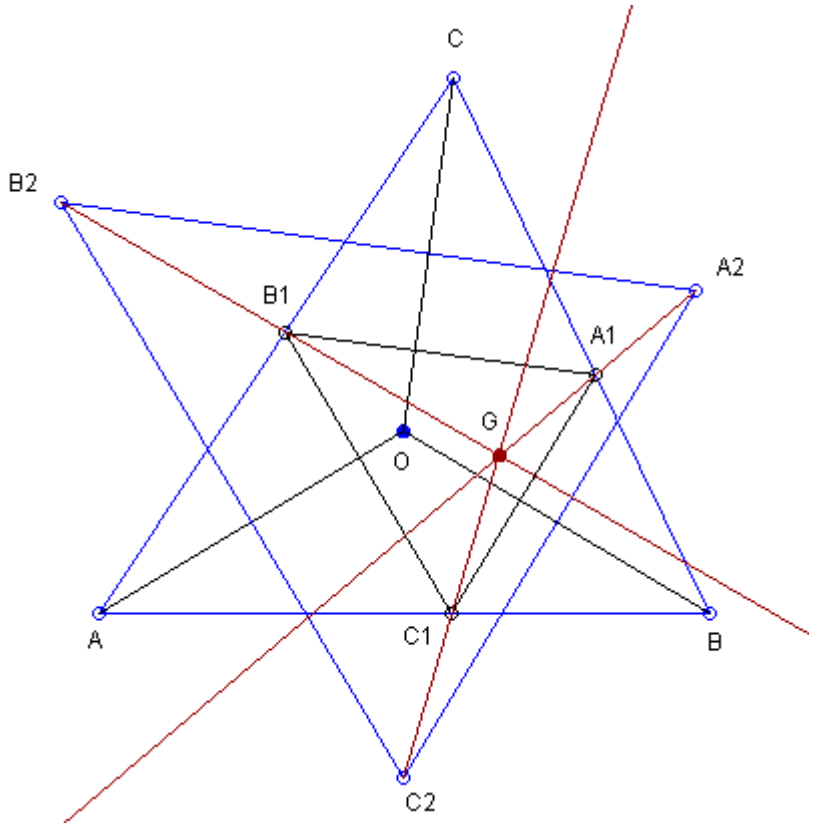
See the Figure:



$A_1B_1C_1$ - Orthic Triangle;
$A_2B_2C_2$ - Triangle of the Prasolov Points of the Corner Triangles of the Orthocenter;
G - Gibert Point = Perspector of triangles ABC and $A_2B_2C_2$.

The Orthic Triangle and the Triangle of the Circumcenters of the Triangulation Triangles of the Circumcenter are homothetic with homothetic center the Gibert Point.

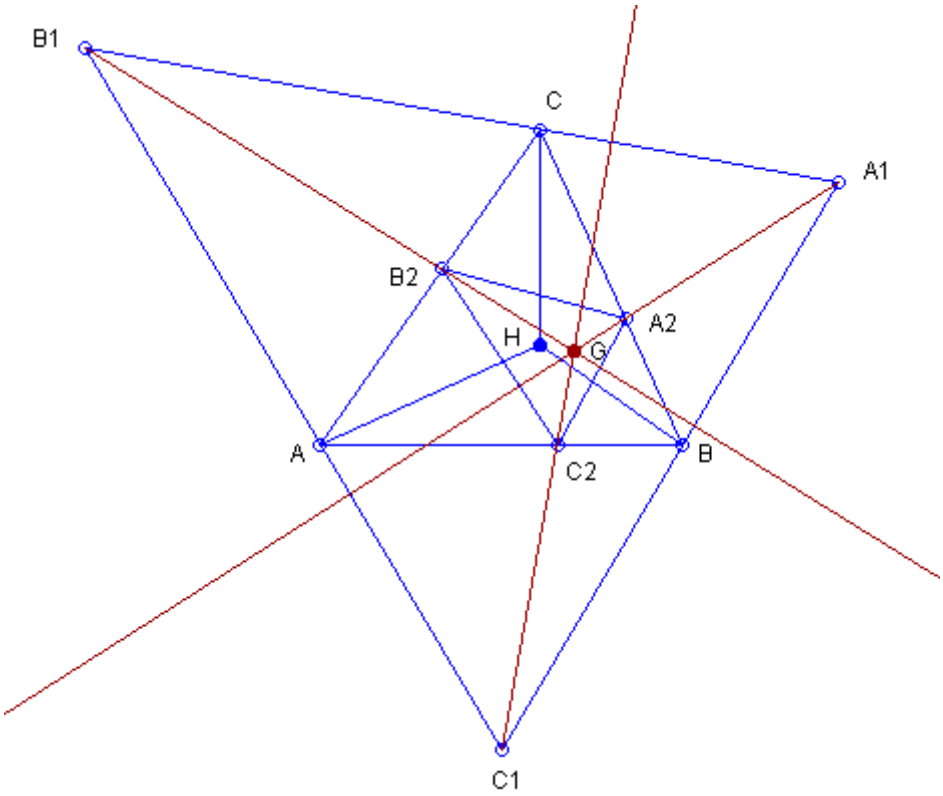
See the Figure:



$A_1B_1C_1$ - Orthic Triangle;
O - Circumcenter;
$A_2B_2C_2$ - Triangle of the Circumcenters of the Triangulation Triangles of the Circumcenter;
G - Gibert Point = Homothetic Center of triangles $A_1B_1C_1$ and $A_2B_2C_2$.

The Tangential Triangle and the Stevanovic Triangle of the Symmedian Points of the Triangulation triangles of the Orthocenter are perspective with perspector the Gibert Point.

See the Figure:

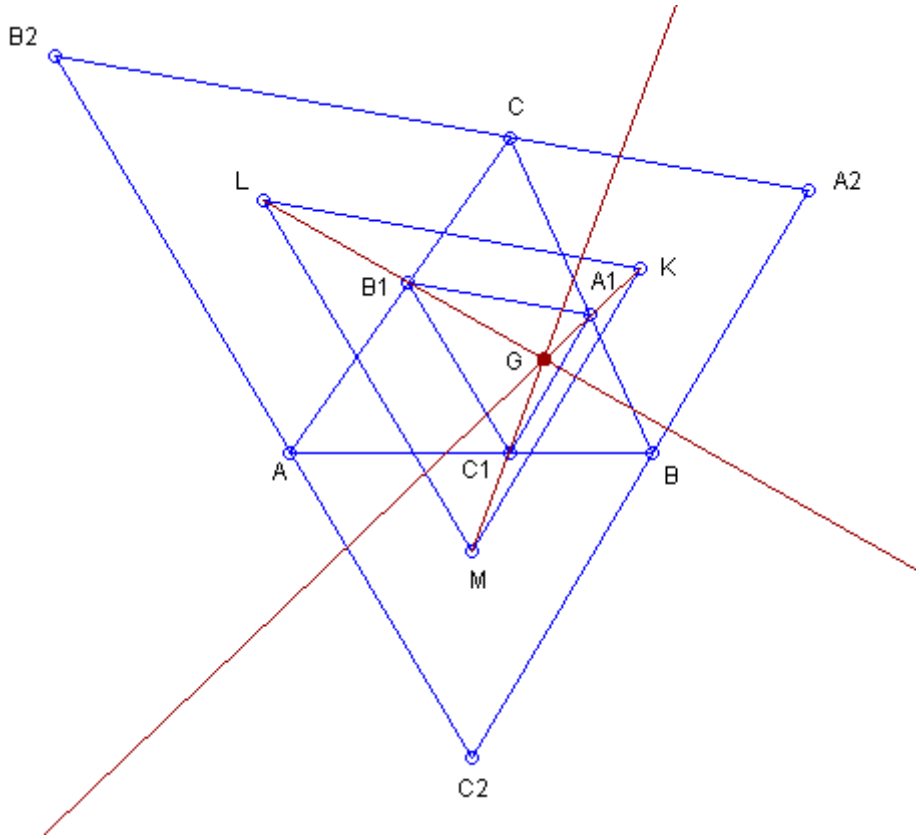


$A_1B_1C_1$ - Tangential Triangle;
H - Orthocenter;
$A_2B_2C_2$ - Stevanovic Triangle of the Symmedian Points of the Triangulation triangles of the Orthocenter;
G - Gibert Point = Perspector of triangles $A_1B_1C_1$ and $A_2B_2C_2$.

The Circum-Orthic Triangle and the Stevanovic Triangle of the Symmedian Points of the Triangulation triangles of the Orthocenter are perspective with perspector the Gibert Point.

The Orthic Triangle and the Triangle of the Circumcenters of the Anticevian Corner Triangles of the Symmedian Point are homothetic with homothetic center the Gibert Point.

See the Figure:



$A_1B_1C_1$ - Orthic Triangle;
$A_2B_2C_2$ - Anticevian Triangle of the Symmedian Point = Tangential Triangle;
KLM - Triangle of the Circumcenters of the Anticevian Corner Triangles of the Symmedian Point;
G - Gibert Point = Homothetic Center of triangles KLM and $A_1B_1C_1$.

Gibert Point = Isogonal Conjugate of the Prasolov Point.

Gibert Point = Anticomplement of the Gibert Point of the Medial Triangle.

Gibert Point = Isogonal Conjugate of the Anticomplement of the Prasolov Point of the Medial Triangle.

The Gibert Point lies on the Line through the Centroid and the Circumcenter.

The Gibert Point lies on the Line through the Centroid and the Orthocenter.

The Gibert Point lies on the Line through the Centroid and the Nine-Point Center.

The Gibert Point lies on the Line through the Centroid and the de Longchamps Point.

The Gibert Point lies on the Line through the Centroid and the Exeter Point.

The Gibert Point lies on the Line through the Centroid and the Schiffler Point.

The Gibert Point lies on the Line through the Centroid and the Skordev Point.

The Gibert Point lies on the Line through the Circumcenter and the Orthocenter.

The Gibert Point lies on the Line through the Circumcenter and the Nine-Point Center.

The Gibert Point lies on the Line through the Circumcenter and the de Longchamps Point.

The Gibert Point lies on the Line through the Circumcenter and the Exeter Point.

The Gibert Point lies on the Line through the Circumcenter and the Schiffler Point.

The Gibert Point lies on the Line through the Circumcenter and the Skordev Point.

The Gibert Point lies on the Line through the Orthocenter and the de Longchamps Point.

The Gibert Point lies on the Line through the Orthocenter and the Schiffler Point.

The Gibert Point lies on the Line through the Orthocenter and the Skordev Point.

The Gibert Point lies on the Line through the Nine-Point Center and the Orthocenter.

The Gibert Point lies on the Line through the Nine-Point Center and the de Longchamps Point.

The Gibert Point lies on the Line through the Nine-Point Center and the Schiffler Point.

The Gibert Point lies on the Line through the Nine-Point Center and the Skordev Point.

The Gibert Point lies on the Line through the Exeter Point and the Orthocenter.

The Gibert Point lies on the Line through the Exeter Point and the Nine-Point Center.

The Gibert Point lies on the Line through the Exeter Point and the de Longchamps Point.

The Gibert Point lies on the Line through the Exeter Point and the Schiffler Point.

The Gibert Point lies on the Line through the Exeter Point and the Skordev Point.

The Gibert Point lies on the Line through the Schiffler Point and the de Longchamps Point.

The Gibert Point lies on the Line through the Schiffler Point and the Skordev Point.

The Gibert Point lies on the Line through the Kosnita Point and the Symmedian Point.

The Gibert Point lies on the Line through the Skordev Point and the de Longchamps Point.

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 and Conventions

We use the definitions and conventions 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.

Thanks

The figures in this note are produced by using the program C.a.R. (Compass and Ruler), an amazing program created by Rene Grothmann. The Grothmann's program is available for download in the Web: Rene Grothmann's C.a.R.. It is free and open source. The reader may verify easily the statements of this paper by using C.a.R. Many thanks to Rene Grothmann for his wonderful program.

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