

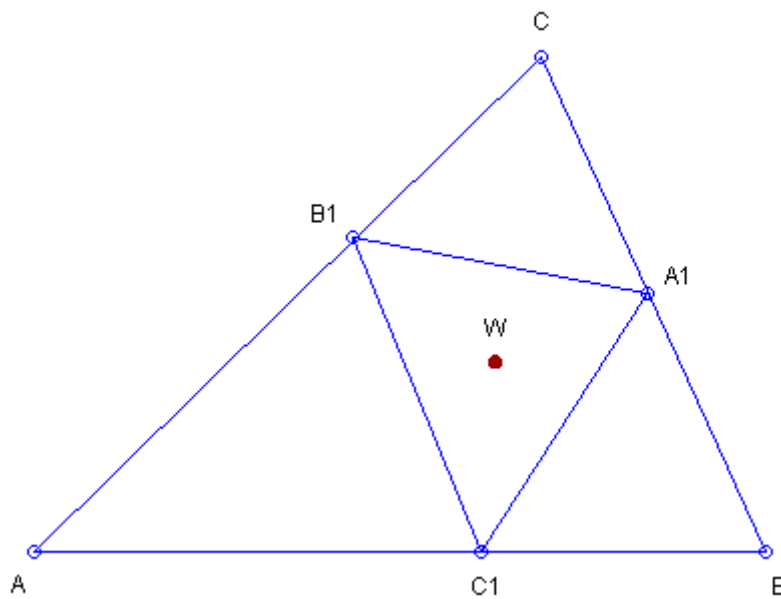
Weill Point

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

The *Weill Point* is the Centroid of the Intouch Triangle.

See the Figure:



$A_1B_1C_1$ - Intouch Triangle;
W - Weill Point = Centroid of the Intouch Triangle.

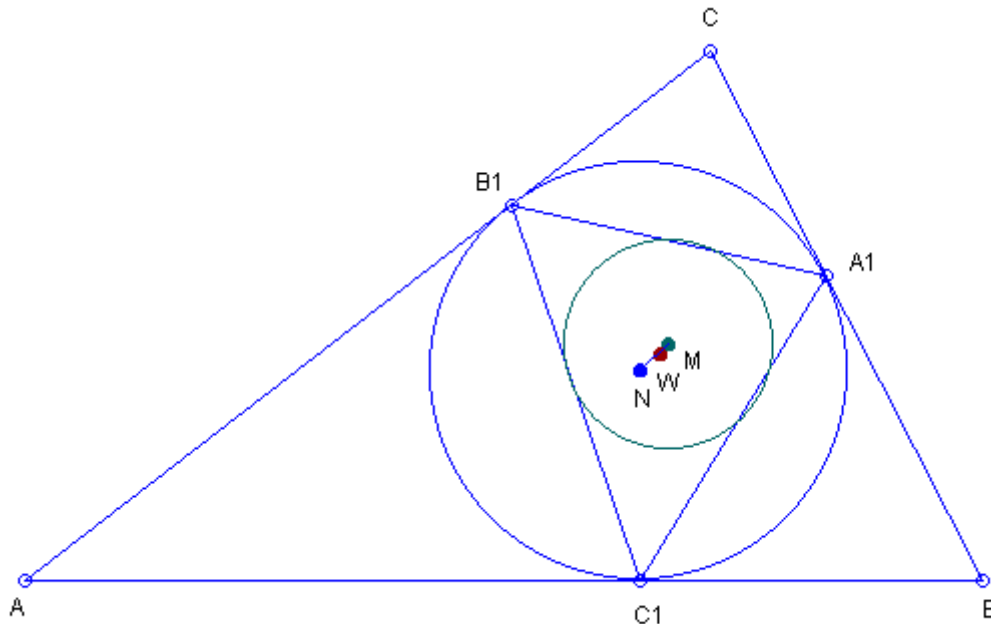
Given a point, the Machine for Questions and Answers produces theorems related to properties of the point. The Machine for Questions and Answers produces theorems related to properties of the Weill Point:

Weill Point = Product of the Incenter and the Complement of the Mittenpunkt.

Weill Point = Internal Center of Similitude of the Incircle and the Nine-Point Circle of the

Intouch Triangle.

See the Figure:



(N) - Incircle;

$A_1B_1C_1$ - Intouch Triangle;

(M) - Nine-Point Circle of the Intouch Triangle;

W - Weill Point = Internal Center of Similitude of circles (N) and (M).

Weill Point = Radical Center of the Triad of the Circumcircles of the Triangulation
Triangles of the Weill Point.

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

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

Weill Point = Homothetic Center of the Incentral Triangle and the Triangle of the reflections
of the Weill Point in the vertices of the Incentral Triangle.

Weill Point = Homothetic Center of the Medial Triangle and the Triangle of the Centroids
of the Triangulation Triangles of the Weill Point.

Weill Point = Homothetic Center of the Medial Triangle and the Triangle of the Weill
Points of the Anticevian Corner Triangles of the Centroid.

Weill Point = Homothetic Center of the Medial Triangle and the Triangle of the reflections
of the Weill Point in the vertices of the Medial Triangle.

Weill Point = Homothetic Center of the Orthic Triangle and the Triangle of the reflections of the Weill Point in the vertices of the Orthic Triangle.

Weill Point = Homothetic Center of the Symmedial Triangle and the Triangle of the reflections of the Weill Point in the vertices of the Symmedial Triangle.

Weill Point = Homothetic Center of the Intouch Triangle and the Triangle of the First Feuerbach Points of the Corner Triangles of the Gergonne Point.

Weill Point = Homothetic Center of the Intouch Triangle and the Triangle of the Kiepert Centers of the Corner Triangles of the Gergonne Point.

Weill Point = Homothetic Center of the Intouch Triangle and the Triangle of the reflections of the Weill Point in the vertices of the Intouch Triangle.

Weill Point = Homothetic Center of the Extouch Triangle and the Triangle of the reflections of the Weill Point in the vertices of the Extouch Triangle.

Weill Point = Homothetic Center of the Excentral Triangle and the Triangle of the reflections of the Weill Point in the vertices of the Excentral Triangle.

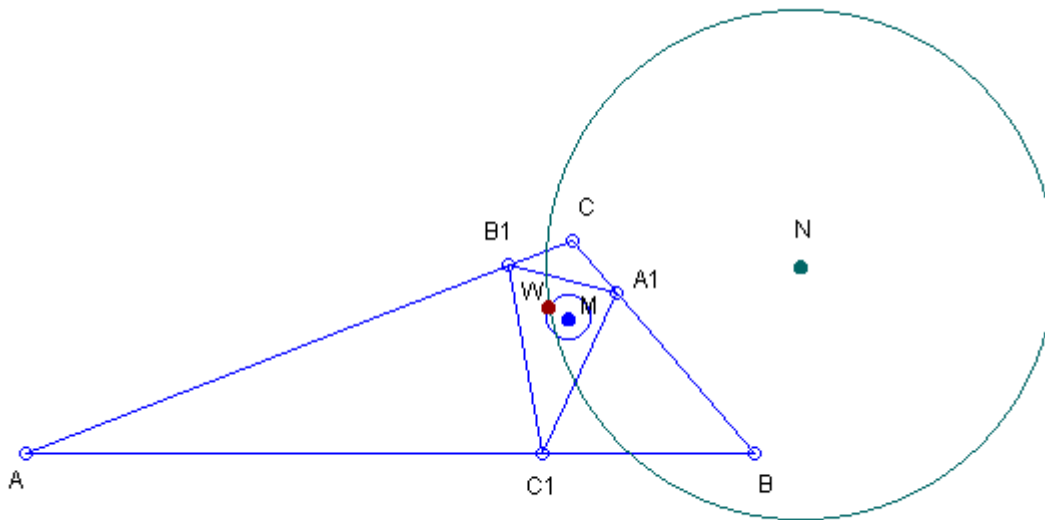
Weill Point = Homothetic Center of the Anticomplementary Triangle and the Triangle of the reflections of the Weill Point in the vertices of the Anticomplementary Triangle.

Weill Point = Homothetic Center of the Tangential Triangle and the Triangle of the reflections of the Weill Point in the vertices of the Tangential Triangle.

The Weill Point lies on the Orthocentroidal Circle of the Intouch Triangle.

The Weill Point lies on the Parry Circle of the Intouch Triangle.

See the Figure:



$A_1B_1C_1$ - Intouch Triangle;
 (M) - Orthocentroidal Circle of the Intouch Triangle;
 (N) - Parry Circle of the Intouch Triangle;
 W - Weill Point lies on circles (M) and (N).

The Weill Point lies on the Orthocentroidal Circle of the Anticevian Triangle of the Center of the Stevanovic Circle.

The Weill Point lies on the Line through the Incenter and the Moses Point.

The Weill Point lies on the Line through the Incenter and the Internal Center of Similitude of the Incircle and the Circumcircle.

The Weill Point lies on the Line through the Circumcenter and the Incenter.

The Weill Point lies on the Line through the Circumcenter and the Moses Point.

The Weill Point lies on the Line through the Circumcenter and the Internal Center of Similitude of the Incircle and the Circumcircle.

The Weill Point lies on the Line through the Circumcenter and the External Center of Similitude of the Incircle and the Circumcircle.

The Weill Point lies on the Line through the Circumcenter and the Evans Perspector.

The Weill Point lies on the Line through the Internal Center of Similitude of the Incircle and the Circumcircle and the Moses Point.

The Weill Point lies on the Line through the External Center of Similitude of the Incircle and the Circumcircle and the Incenter.

The Weill Point lies on the Line through the External Center of Similitude of the Incircle and the Circumcircle and the Moses Point.

The Weill Point lies on the Line through the External Center of Similitude of the Incircle and the Circumcircle and the Internal Center of Similitude of the Incircle and the Circumcircle.

The Weill Point lies on the Line through the Isogonal Conjugate of the Grinberg Point and the Kiepert-Parry Point.

The Weill Point lies on the Line through the Evans Perspector and the Incenter.

The Weill Point lies on the Line through the Evans Perspector and the Moses Point.

The Weill Point lies on the Line through the Evans Perspector and the Internal Center of Similitude of the Incircle and the Circumcircle.

The Weill Point lies on the Line through the Evans Perspector and the External Center of Similitude of the Incircle and the Circumcircle.

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 - 5] 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.

References

1. Quim Castellsaguer, The Triangles Web,
<http://www.xtec.es/~qcastell/ttw/ttweng/portada.html>
2. D. Dekov, Computer-Generated Encyclopedia of Euclidean Geometry, First Edition, 2006, <http://www.dekovsoft.com/>
3. C. Kimberling, Encyclopedia of Triangle Centers,
<http://faculty.evansville.edu/ck6/encyclopedia/>
4. Eric W. Weisstein, MathWorld - A Wolfram Web Resource.

- <http://mathworld.wolfram.com/>
5. Paul Yiu, Introduction to the Geometry of the Triangle, 2001,
<http://www.math.fau.edu/yiu/geometry.html>

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