

Orthocenter

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

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 Orthocenter:

Orthocenter = de Longchamps Point of the Medial Triangle.

Orthocenter = Circumcenter of the Anticomplementary Triangle.

Orthocenter = de Longchamps Point of the Pedal Triangle of the Circumcenter.

Orthocenter = Circumcenter of the Antipedal Triangle of the Orthocenter.

Orthocenter = de Longchamps Point of the Circumcevian Triangle of the Circumcenter.

Orthocenter = Orthocenter of the Euler Triangle.

Orthocenter = Kiepert-Parry Point of the Fuhrmann Triangle.

Orthocenter = Circumcenter of the Johnson Triangle.

Orthocenter = Center of the First Droz-Farny Circle.

Orthocenter = Center of the Circumcircle of the Anticomplementary Triangle.

Orthocenter = Center of the Second Droz-Farny Circle of the Anticomplementary Triangle.

Orthocenter = Center of the Circumcircle of the Antipedal Triangle of the Orthocenter.

Orthocenter = Center of the Second Droz-Farny Circle of the Antipedal Triangle of the Orthocenter.

Orthocenter = Center of the First Droz-Farny Circle of the Euler Triangle.

Orthocenter = Center of the Circumcircle of the Johnson Triangle.

Orthocenter = Center of the Second Droz-Farny Circle of the Johnson Triangle.

Orthocenter = Center of the Outer Apollonius Circle of the Lucas Circles of the Anticomplementary Triangle.

Orthocenter = Center of the Outer Apollonius Circle of the Lucas Circles of the Antipedal Triangle of the Orthocenter.

Orthocenter = Center of the Outer Apollonius Circle of the Lucas Circles of the Johnson Triangle.

Orthocenter = Reflection of the Circumcenter in the Nine-Point Center.

Orthocenter = Reflection of the Nagel Point in the Fuhrmann Center.

Orthocenter = Reflection of the de Longchamps Point in the Circumcenter.

Orthocenter = Reflection of the Tarry Point in the Kiepert Center.

Orthocenter = Reflection of the Centroid in the Center of the Orthocentroidal Circle.

Orthocenter = Reflection of the Incenter in the Midpoint of the Incenter and the Orthocenter.

Orthocenter = Reflection of the Symmedian Point in the Midpoint of the Orthocenter and the Symmedian Point.

Orthocenter = Reflection of the Gergonne Point in the Midpoint of the Gergonne Point and the Orthocenter.

Orthocenter = Reflection of the Nine-Point Center in the Midpoint of the Nine-Point Center and the Orthocenter.

Orthocenter = Reflection of the Mittenpunkt in the Midpoint of the Mittenpunkt and the Orthocenter.

Orthocenter = Reflection of the Spieker Center in the Midpoint of the Orthocenter and the Spieker Center.

Orthocenter = Product of the Centroid and the Orthocenter.

Orthocenter = Product of the Symmedian Point and the Isotomic Conjugate of the Circumcenter.

Orthocenter = Product of the Clawson Point and the Isotomic Conjugate of the Incenter.

Orthocenter = Product of the Circumcenter and the Perspector of Triangle ABC and the Symmedial Triangle of the Orthic Triangle.

Orthocenter = Product of the Isotomic Conjugate of the Nine-Point Center and the

Symmedian Point of the Orthic Triangle.

Orthocenter = Product of the Isotomic Conjugate of the Symmedian Point and the Homothetic Center of the Orthic Triangle and the Tangential Triangle.

Orthocenter = Miquel Point of the Orthocenter.

Orthocenter = Inverse of the Circumcenter in the Orthocentroidal Circle of the Anticomplementary Triangle.

Orthocenter = Inverse of the Circumcenter in the Orthocentroidal Circle of the Antipedal Triangle of the Orthocenter.

Orthocenter = Inverse of the Nine-Point Center in the Orthocentroidal Circle of the Johnson Triangle.

Orthocenter = External Center of Similitude of the Incircle and the Inner Johnson-Yff Circle.

Orthocenter = External Center of Similitude of the Incircle and the Outer Johnson-Yff Circle.

Orthocenter = External Center of Similitude of the Circumcircle and the Nine-Point Circle.

Orthocenter = External Center of Similitude of the Inner Johnson-Yff Circle and the Outer Johnson-Yff Circle.

Orthocenter = External Center of Similitude of the Circumcircle and the Circumcircle of the Medial Triangle.

Orthocenter = External Center of Similitude of the Circumcircle and the Circumcircle of the Orthic Triangle.

Orthocenter = External Center of Similitude of the Bevan Circle and the Hexyl Circle of the Medial Triangle.

Orthocenter = External Center of Similitude of the Hexyl Circle and the Bevan Circle of the Medial Triangle.

Orthocenter = External Center of Similitude of the Inner Lucas Circle and the Inner Lucas Circle of the Orthic Triangle.

Orthocenter = External Center of Similitude of the Radical Circle of the Lucas Circles and the Radical Circle of the Lucas Circles of the Orthic Triangle.

Orthocenter = External Center of Similitude of the Second Droz-Farny Circle and the Second Droz-Farny Circle of the Medial Triangle.

Orthocenter = External Center of Similitude of the Inner Johnson-Yff Circle and the

Circumcircle of the Intouch Triangle.

Orthocenter = External Center of Similitude of the Outer Johnson-Yff Circle and the Circumcircle of the Intouch Triangle.

Orthocenter = Radical Center of the Triad of the Circumcircles of the Triangulation Triangles of the Orthocenter.

Orthocenter = Radical Center of the Triad of the Orthocentroidal Circles of the Triangulation Triangles of the Orthocenter.

Orthocenter = Radical Center of the Triad of the First Droz-Farny Circles of the Triangulation Triangles of the Orthocenter.

Orthocenter = Radical Center of the Triad of the Circumcircles of the Corner Triangles of the Anticevian Triangle of the Centroid.

Orthocenter = Perspector of the Orthic Triangle and the Anticevian Triangle of the Orthocenter.

Orthocenter = Perspector of the Orthic Triangle and the Antipedal Triangle of the de Longchamps Point.

Orthocenter = Homothetic Center of the Medial Triangle and the Circumcevian Triangle of the Circumcenter.

Orthocenter = Homothetic Center of the Orthic Triangle and the Circum-Orthic Triangle.

Orthocenter = Perspector of the Orthic Triangle and the Euler Triangle.

Orthocenter = Perspector of the Orthic Triangle and the Reflection Triangle.

Orthocenter = Perspector of the Cevian Triangle of the Circumcenter and the First Taylor-Kiepert Triangle.

Orthocenter = Perspector of the Cevian Triangle of the Nine-Point Center and the Second Taylor-Kiepert Triangle.

Orthocenter = Perspector of the Anticevian Triangle of the Orthocenter and the Pedal Triangle of the Orthocenter.

Orthocenter = Perspector of the Anticevian Triangle of the Orthocenter and the Circum-Orthic Triangle.

Orthocenter = Homothetic Center of the Anticomplementary Triangle and the Johnson Triangle.

Orthocenter = Perspector of the Anticevian Triangle of the Orthocenter and the Euler Triangle.

Orthocenter = Perspector of the Anticevian Triangle of the Orthocenter and the Reflection Triangle.

Orthocenter = Perspector of the Anticevian Triangle of the Clawson Point and the Hexyl Triangle.

Orthocenter = Perspector of the Anticevian Triangle of the Clawson Point and the Second Spieker-Kiepert Triangle.

Orthocenter = Perspector of the Anticevian Triangle of the Malfatti-Moses Point and the Outer Vecten Triangle.

Orthocenter = Perspector of the Pedal Triangle of the Orthocenter and the Antipedal Triangle of the de Longchamps Point.

Orthocenter = Homothetic Center of the Pedal Triangle of the Circumcenter and the Circumcevian Triangle of the Circumcenter.

Orthocenter = Homothetic Center of the Pedal Triangle of the Orthocenter and the Circum-Orthic Triangle.

Orthocenter = Perspector of the Pedal Triangle of the Orthocenter and the Euler Triangle.

Orthocenter = Perspector of the Pedal Triangle of the Orthocenter and the Reflection Triangle.

Orthocenter = Perspector of the Antipedal Triangle of the de Longchamps Point and the Circum-Orthic Triangle.

Orthocenter = Homothetic Center of the Antipedal Triangle of the Orthocenter and the Johnson Triangle.

Orthocenter = Perspector of the Antipedal Triangle of the de Longchamps Point and the Euler Triangle.

Orthocenter = Perspector of the Antipedal Triangle of the de Longchamps Point and the Reflection Triangle.

Orthocenter = Perspector of the Circum-Orthic Triangle and the Euler Triangle.

Orthocenter = Perspector of the Circum-Orthic Triangle and the Reflection Triangle.

Orthocenter = Perspector of the Euler Triangle and the Reflection Triangle.

Orthocenter = Perspector of the Reflection Triangle and the Euler Triangle.

Orthocenter = Perspector of the Third Brocard Triangle and the Neuberg Triangle.

Orthocenter = Perspector of the Neuberg Triangle and the Third Brocard Triangle.

Orthocenter = Perspector of Triangle ABC and the Triangle of the de Longchamps Points of the Triangulation Triangles of the de Longchamps Point.

Orthocenter = Perspector of Triangle ABC and the Stevanovic Triangle of the Prasolov Points of the Triangulation triangles of the Incenter.

Orthocenter = Perspector of Triangle ABC and the Stevanovic Triangle of the Orthocenters of the Triangulation triangles of the Orthocenter.

Orthocenter = Perspector of Triangle ABC and the Stevanovic Triangle of the Inner Vecten Points of the Triangulation triangles of the Inner Kenmotu Point.

Orthocenter = Homothetic Center of Triangle ABC and the Triangle of the Orthocenters of the Corner Triangles of the Centroid.

Orthocenter = Homothetic Center of Triangle ABC and the Triangle of the Circumcenters of the Corner Triangles of the Orthocenter.

Orthocenter = Homothetic Center of Triangle ABC and the Triangle of the de Longchamps Points of the Anticevian Corner Triangles of the Centroid.

Orthocenter = Homothetic Center of Triangle ABC and the Triangle of the Orthocenters of the Anticevian Corner Triangles of the Orthocenter.

Orthocenter = Perspector of Triangle ABC and the Triangle of the reflections of the Orthocenter in the sides of the Medial Triangle.

Orthocenter = Perspector of Triangle ABC and the Triangle of the reflections of the Circumcenter in the sides of the Excentral Triangle.

Orthocenter = Homothetic Center of Triangle ABC and the Triangle of the reflections of the Orthocenter in the sides of the Anticomplementary Triangle.

Orthocenter = Homothetic Center of Triangle ABC and the Triangle of the reflections of the de Longchamps Point in the vertices of the Medial Triangle.

Orthocenter = Perspector of Triangle ABC and the Triangle of the reflections of the Orthocenter in the vertices of the Orthic Triangle.

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

Orthocenter = Perspector of Triangle ABC and the Triangle of the reflections of the de Longchamps Point in the vertices of the Tangential Triangle.

Orthocenter = Homothetic Center of Triangle ABC and the Triangle of the reflections of the vertices of the Medial Triangle in the Nine-Point Center.

Orthocenter = Perspector of Triangle ABC and the Triangle of the reflections of the vertices

of the Orthic Triangle in the Orthocenter.

Orthocenter = Perspector of Triangle ABC and the Triangle of the reflections of the vertices of the Extouch Triangle in the Spieker Center.

Orthocenter = Perspector of Triangle ABC and the Triangle of the reflections of the vertices of the Excentral Triangle in the Spieker Center.

Orthocenter = Homothetic Center of Triangle ABC and the Triangle of the reflections of the vertices of the Anticomplementary Triangle in the Circumcenter.

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

Orthocenter = Perspector of Triangle ABC and the Triangle of the reflections of the vertices of the Tangential Triangle in the Nine-Point Center.

Orthocenter = Perspector of Triangle ABC and the Outer Apollonius Triangle of the Lucas Circles of the Orthic Triangle.

Orthocenter = Perspector of Triangle ABC and the Outer Apollonius Triangle of the Lucas Circles of the Anticevian Triangle of the Orthocenter.

Orthocenter = Perspector of Triangle ABC and the Outer Apollonius Triangle of the Lucas Circles of the Pedal Triangle of the Orthocenter.

Orthocenter = Perspector of Triangle ABC and the Outer Apollonius Triangle of the Lucas Circles of the Antipedal Triangle of the de Longchamps Point.

Orthocenter = Perspector of Triangle ABC and the Outer Apollonius Triangle of the Lucas Circles of the Circum-Orthic Triangle.

Orthocenter = Homothetic Center of Triangle ABC and the Outer Apollonius Triangle of the Lucas Circles of the Euler Triangle.

Orthocenter = Perspector of Triangle ABC and the Outer Apollonius Triangle of the Lucas Circles of the Triangle of the reflections.

Orthocenter = Complement of the de Longchamps Point.

Orthocenter = Isogonal Conjugate of the Complement of the Orthocenter.

Orthocenter = Cyclocevian Conjugate of the Complement of the Centroid.

Orthocenter = Anticomplement of the Circumcenter.

Orthocenter = Anticomplement of the Anticomplement of the Nine-Point Center.

Orthocenter = Isogonal Conjugate of the Anticomplement of the Nine-Point Center.

Orthocenter = Isotomic Conjugate of the Anticomplement of the Symmedian Point.

Orthocenter = Cyclocevian Conjugate of the Anticomplement of the Centroid.

Orthocenter = Isogonal Conjugate of the Circumcenter.

Orthocenter = Anticomplement of the Isogonal Conjugate of the Orthocenter.

Orthocenter = Cyclocevian Conjugate of the Isogonal Conjugate of the Symmedian Point.

Orthocenter = Cyclocevian Conjugate of the Isotomic Conjugate of the Centroid.

Orthocenter = Cyclocevian Conjugate of the Centroid.

The Orthocenter lies on the Orthocentroidal Circle.

The Orthocenter lies on the Bevan Circle of the Orthic Triangle.

The Orthocenter lies on the Brocard Circle of the Anticomplementary Triangle.

The Orthocenter lies on the Bevan Circle of the Pedal Triangle of the Orthocenter.

The Orthocenter lies on the Brocard Circle of the Antipedal Triangle of the Orthocenter.

The Orthocenter lies on the Bevan Circle of the Circum-Orthic Triangle.

The Orthocenter lies on the Orthocentroidal Circle of the Euler Triangle.

The Orthocenter lies on the Circumcircle of the Fuhrmann Triangle.

The Orthocenter lies on the Parry Circle of the Fuhrmann Triangle.

The Orthocenter lies on the Circumcircle of the Fourth Brocard Triangle.

The Orthocenter lies on the Brocard Circle of the Johnson Triangle.

The Orthocenter lies on the Outer Apollonius Circle of the Lucas Circles of the Fuhrmann Triangle.

The Orthocenter lies on the Outer Apollonius Circle of the Lucas Circles of the Fourth Brocard Triangle.

The Orthocenter lies on the Line through the Centroid and the Circumcenter.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Orthocenter lies on the Line through the Mittenpunkt and the Spieker Center.

The Orthocenter lies on the Line through the First Isodynamic Point and the Outer Napoleon Point.

The Orthocenter lies on the Line through the Inner Napoleon Point and the Second Isodynamic Point.

The Orthocenter lies on the Line through the Clawson Point and the Mittenpunkt.

The Orthocenter lies on the Line through the Clawson Point and the Spieker Center.

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

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

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

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

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

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

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

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

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

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

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

The Orthocenter lies on the Line through the Internal Center of Similitude of the Incircle and the Circumcircle and the Second Feuerbach Point.

The Orthocenter lies on the Line through the External Center of Similitude of the Incircle and the Circumcircle and the First Feuerbach Point.

The Orthocenter lies on the Line through the Tarry Point and the Third Power Point.

The Orthocenter lies on the Line through the Kiepert Center and the Third Power Point.

The Orthocenter lies on the Line through the Kiepert Center and the Tarry Point.

The Orthocenter lies on the Line through the Fuhrmann Center and the Nagel Point.

The Orthocenter lies on the Line through the Inner Vecten Point and the Outer Kenmotu Point.

The Orthocenter lies on the Line through the Inner Kenmotu Point and the Outer Vecten Point.

The Orthocenter lies on the Line through the Inner Kenmotu Point and the Malfatti-Moses Point.

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

The Orthocenter lies on the Line through the Malfatti-Moses Point and the Outer Vecten 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.

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