Math 308 Project

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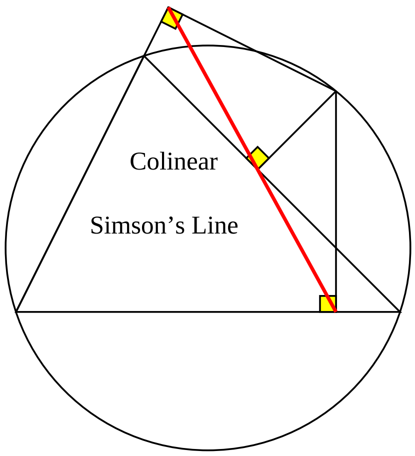
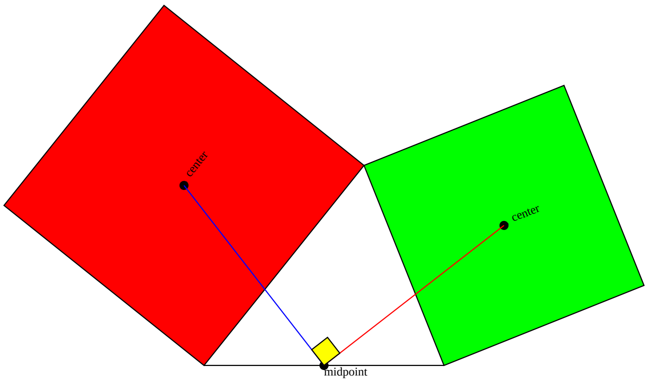
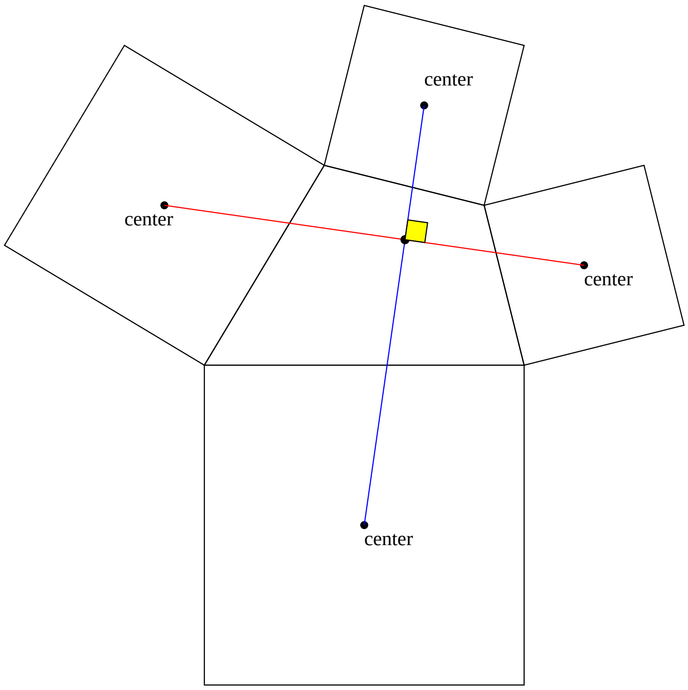
Student number: 80341993

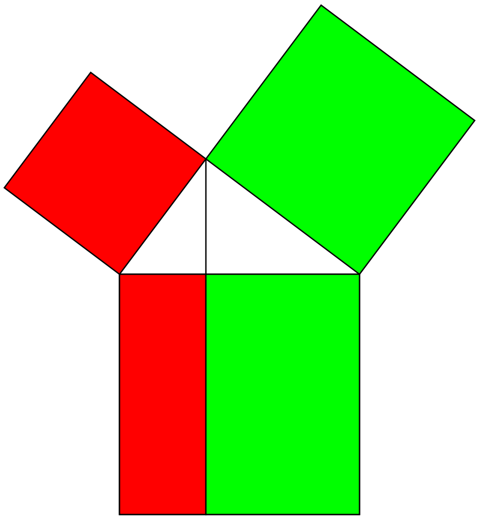
From Pythagoras' Theorem to Van Aubel's Theorem and Simson's Line Theorem

(1)Pythagoras' Theorem
(2)Triangle and Squares problem 1
 (to enhance the proof of Van Aubel's Theorem)
(3)Van Aubel's Theorem
(4)Simson's Line Theoerm



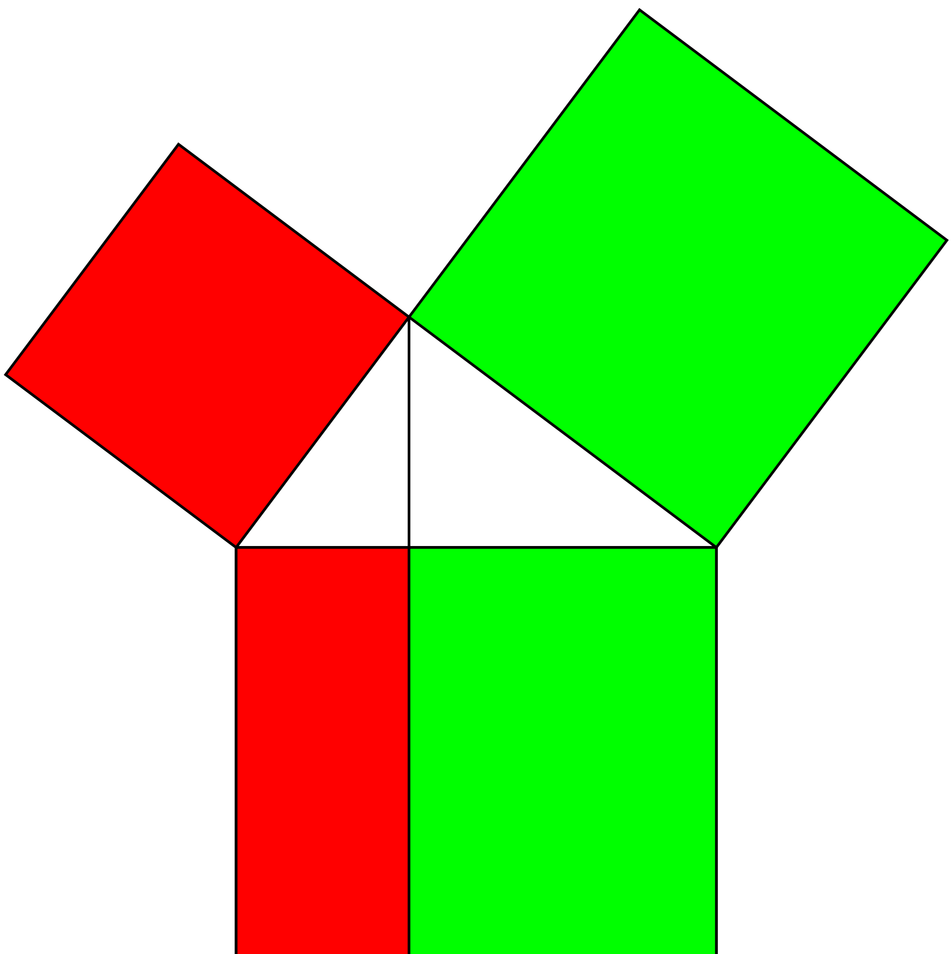


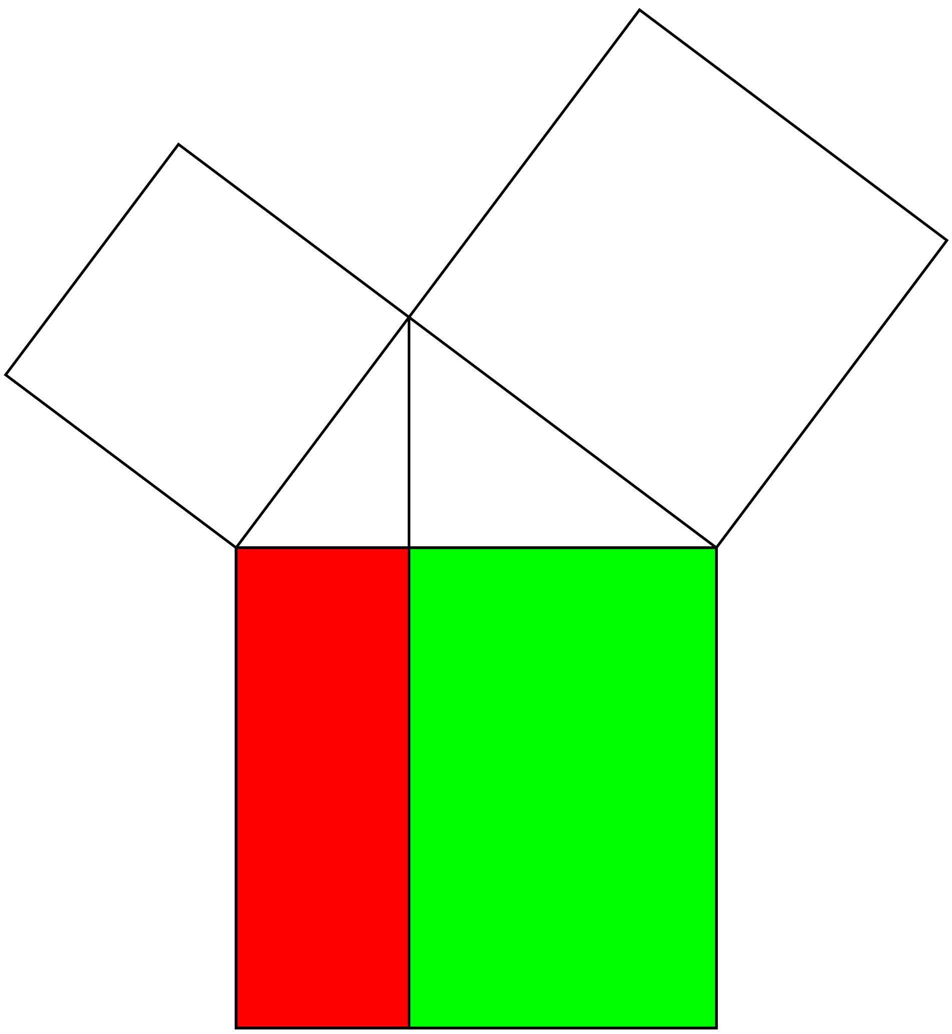


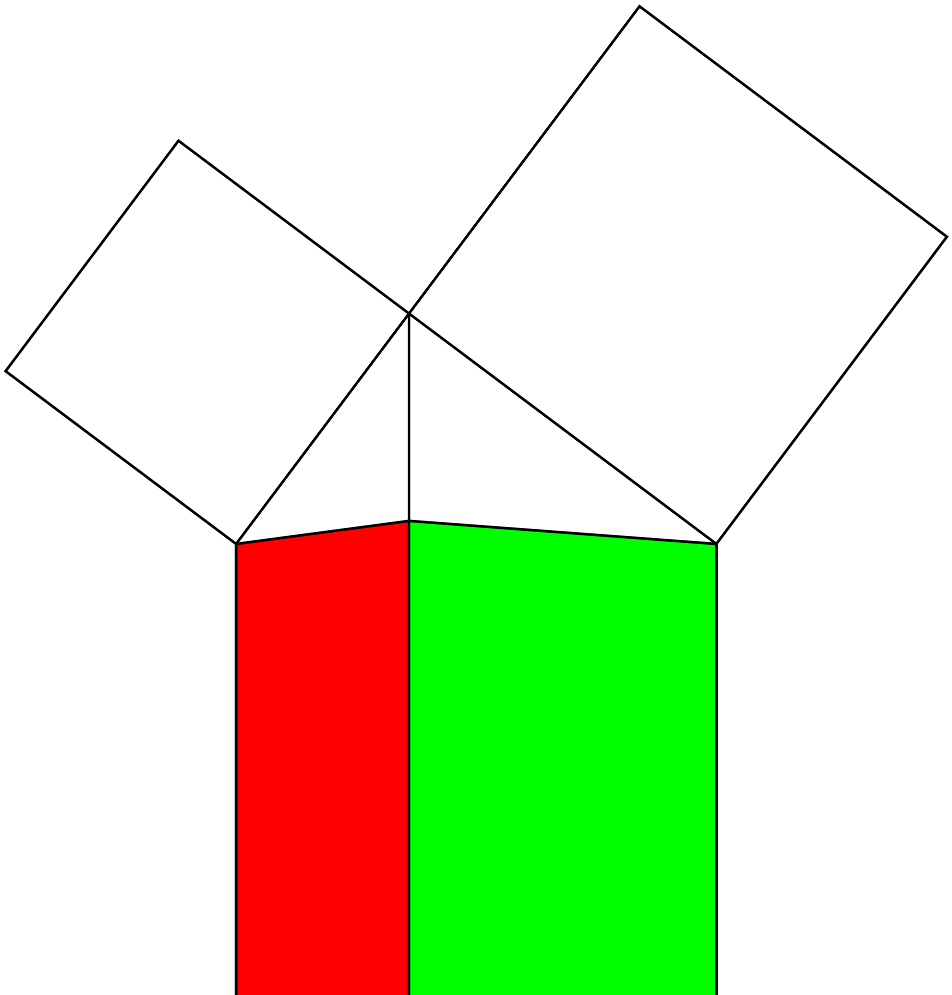


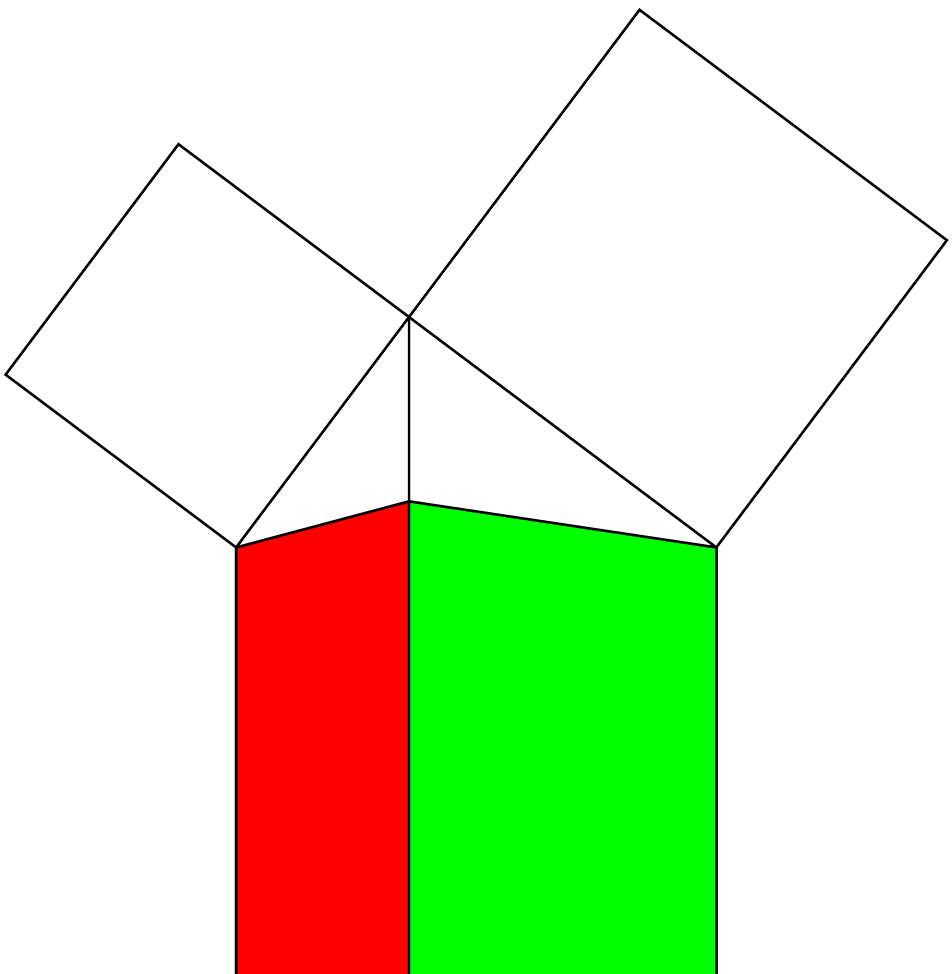
A variation of one of the original

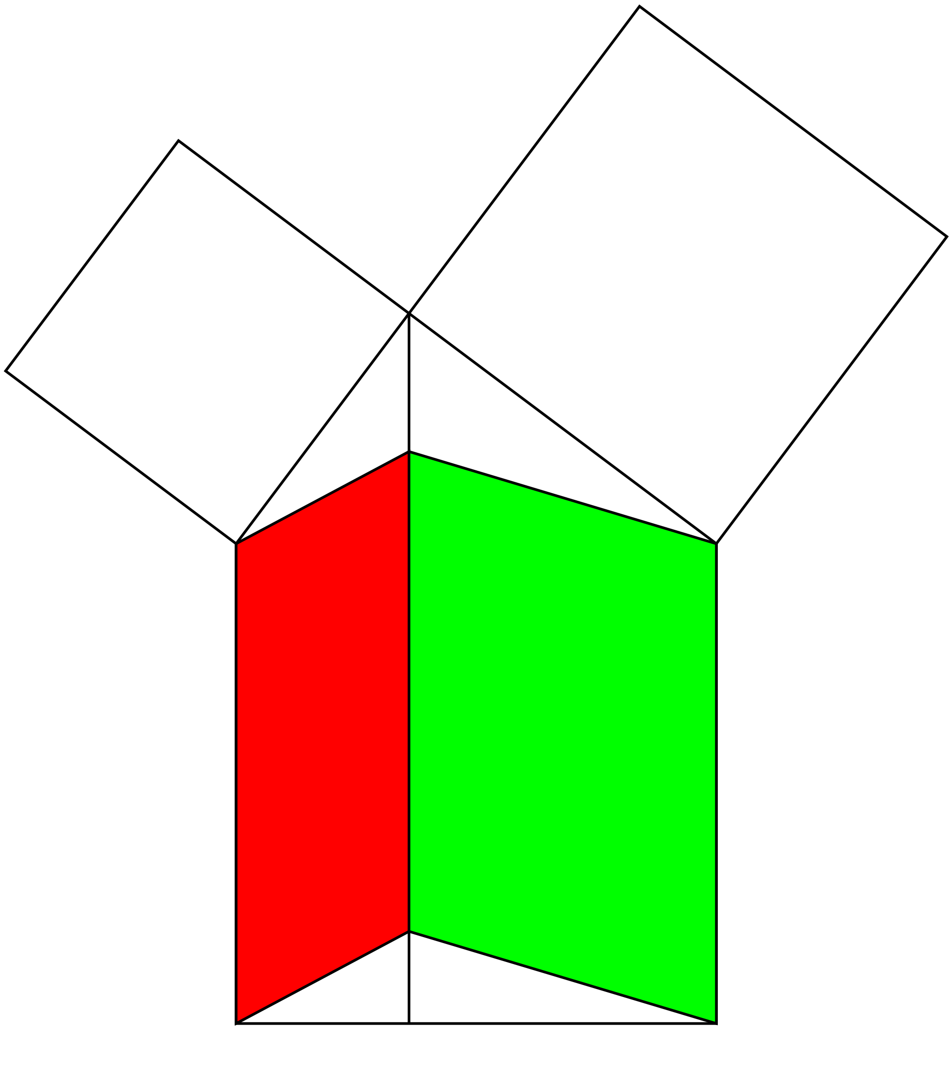
Pythagorean Theorem Euclid’s proofs

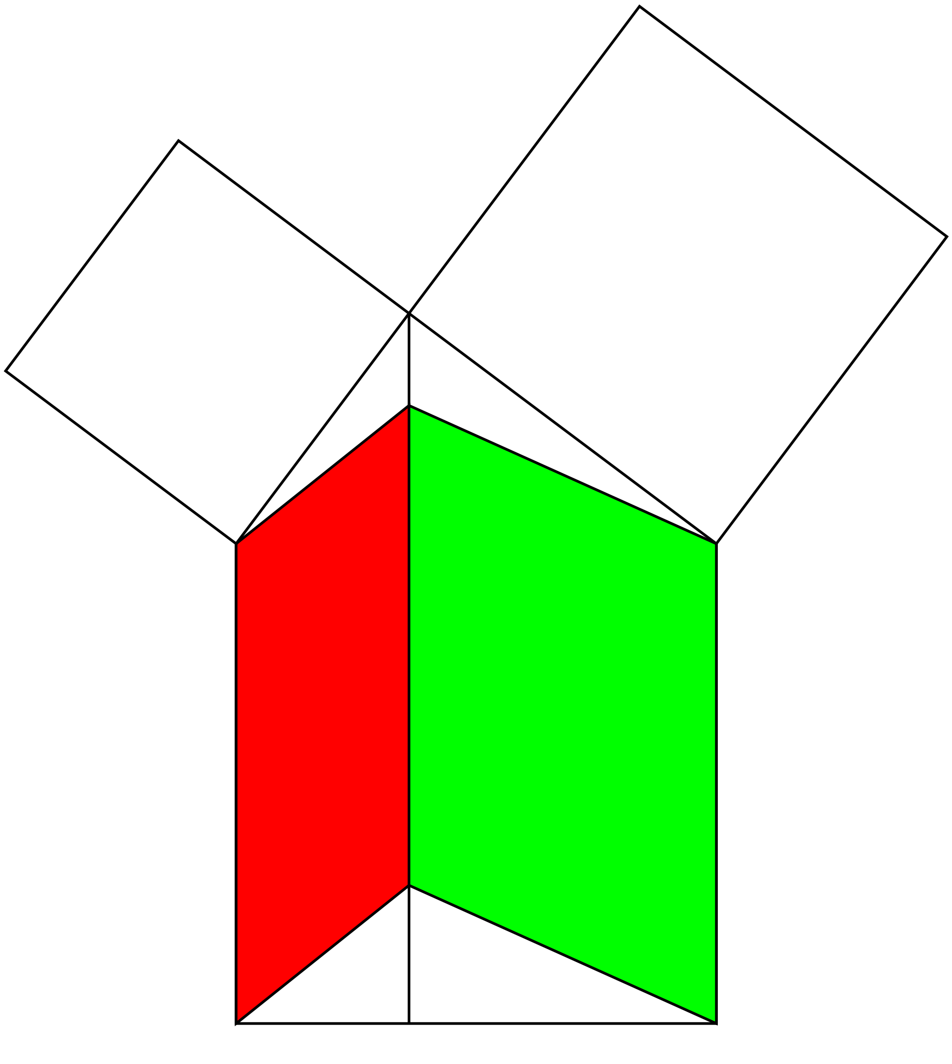


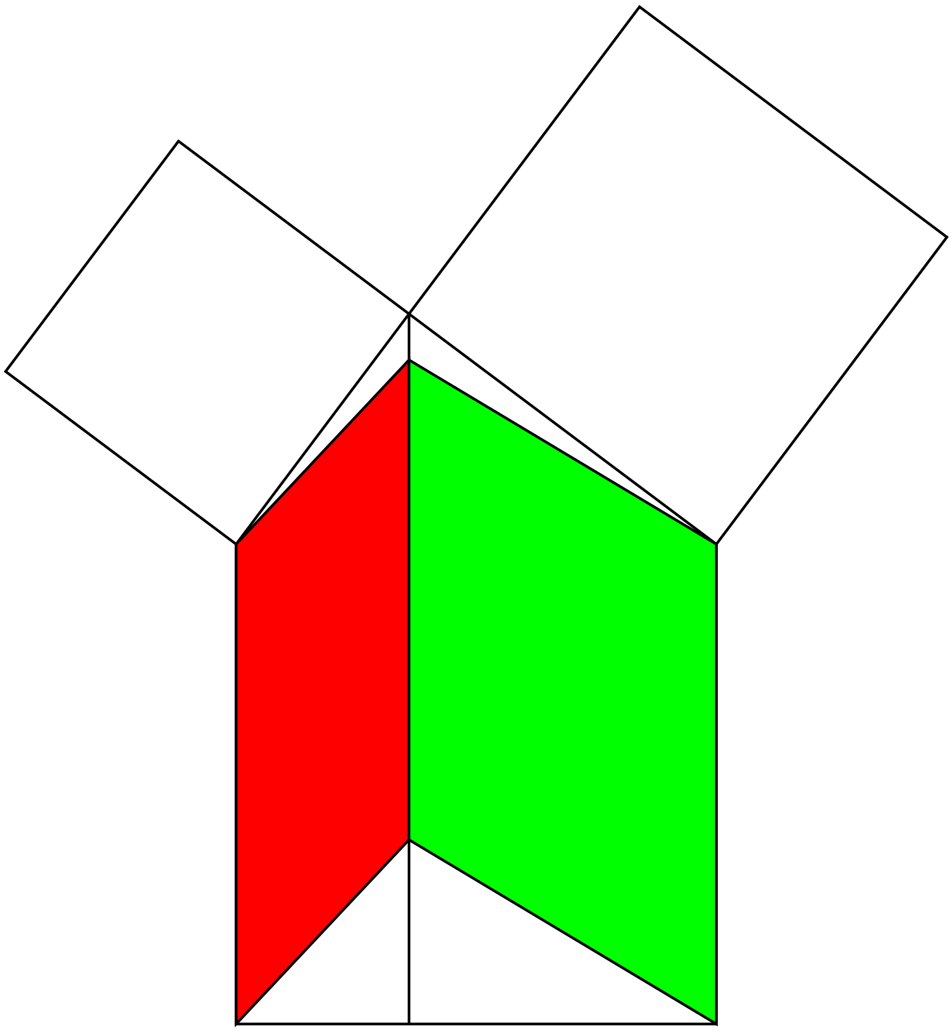


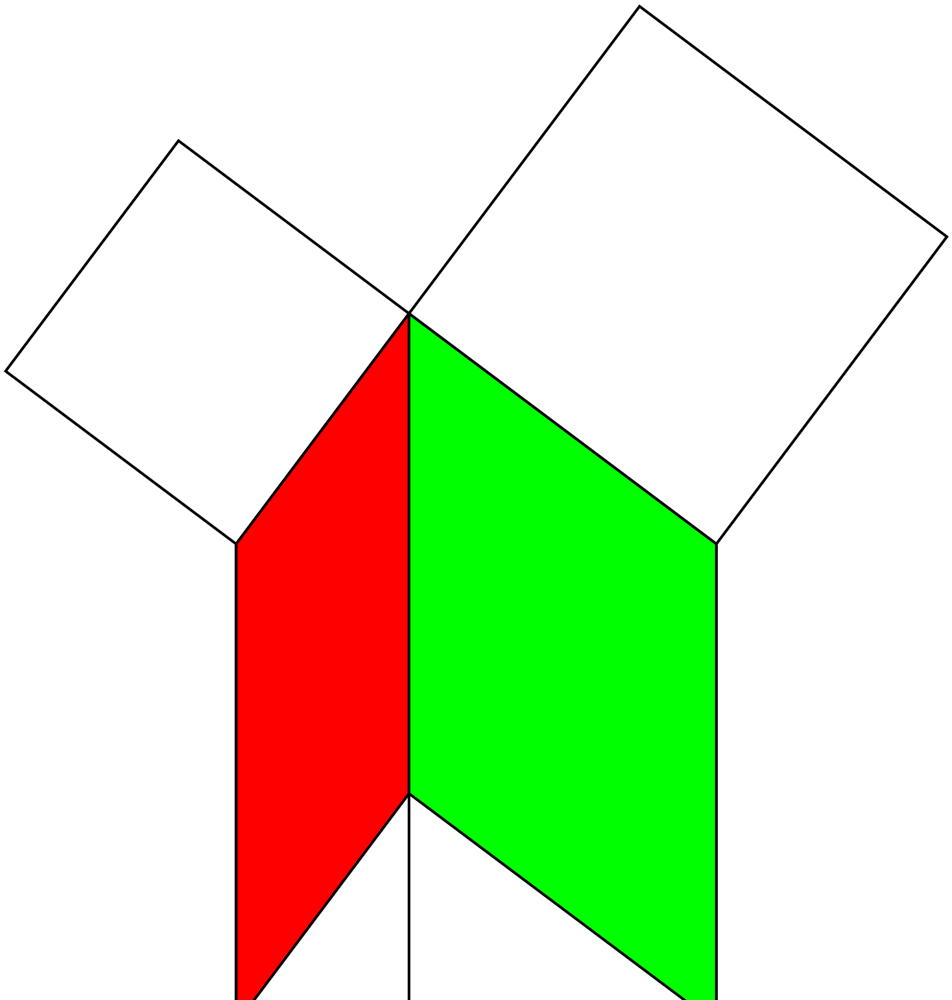


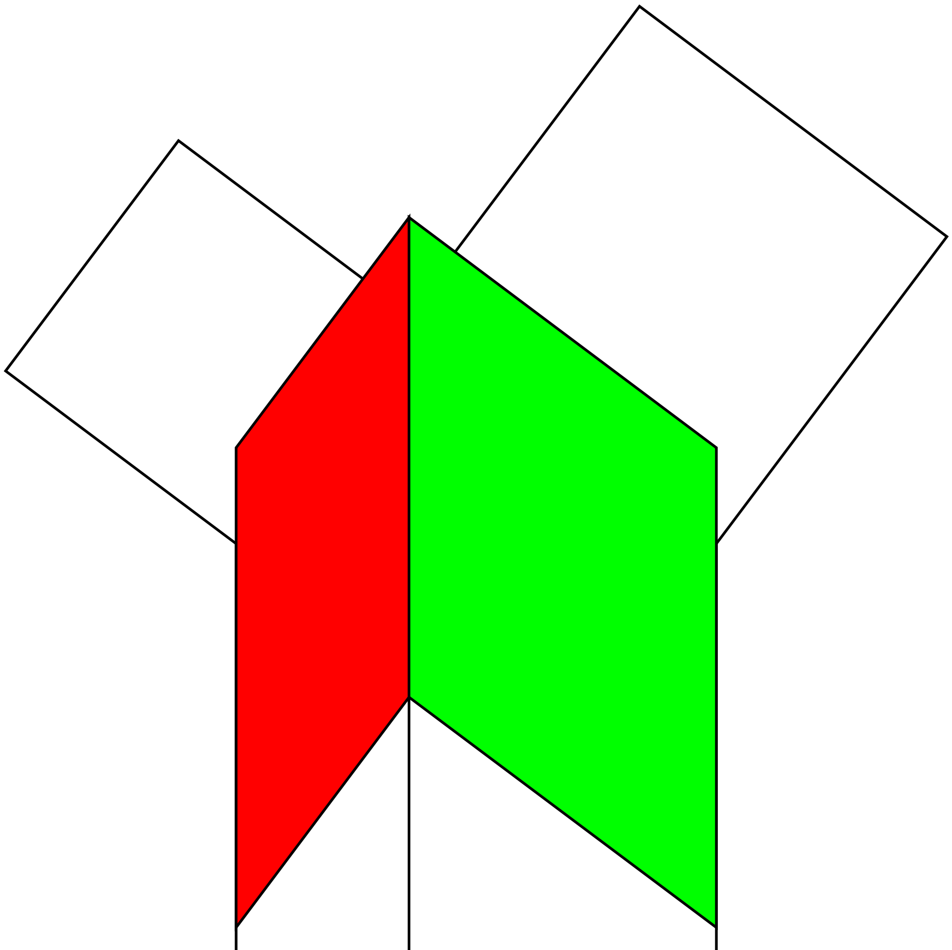


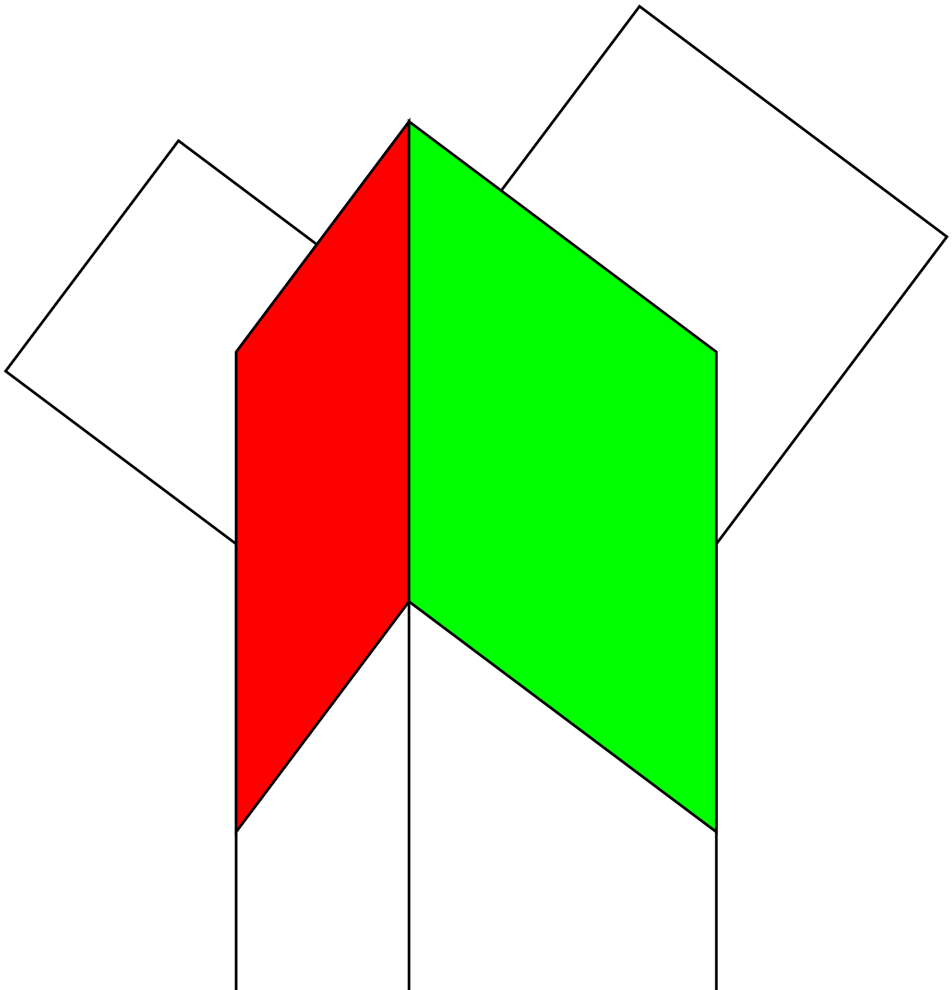


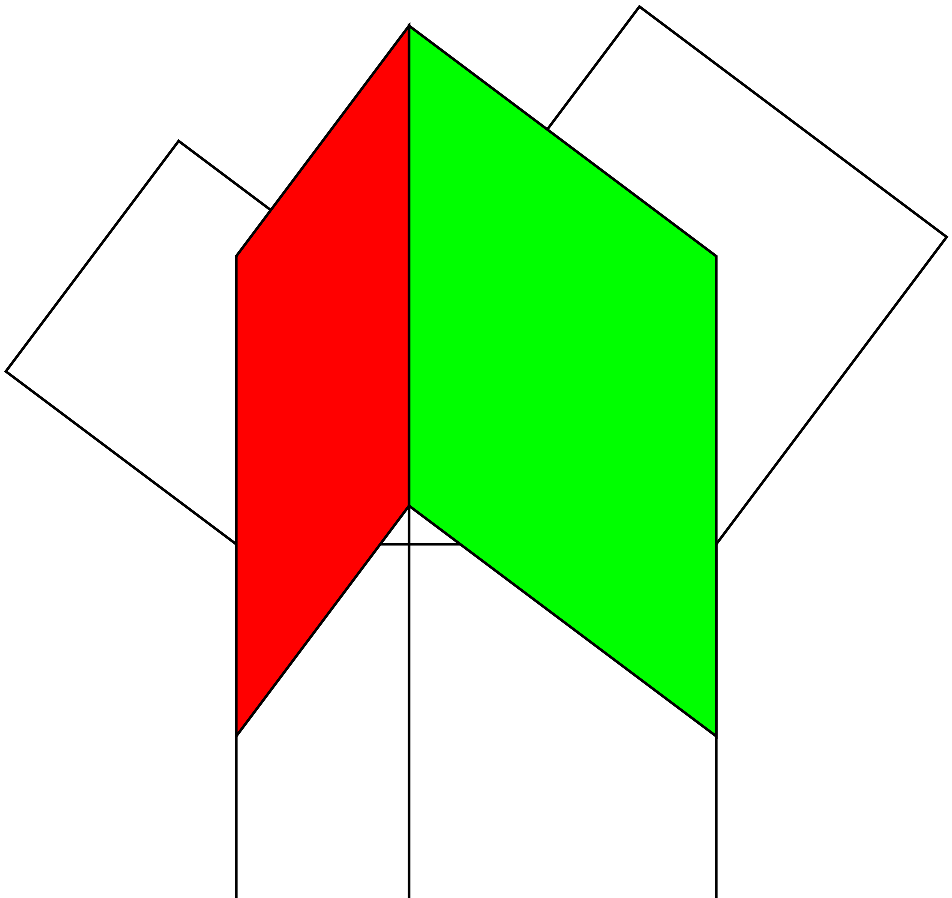


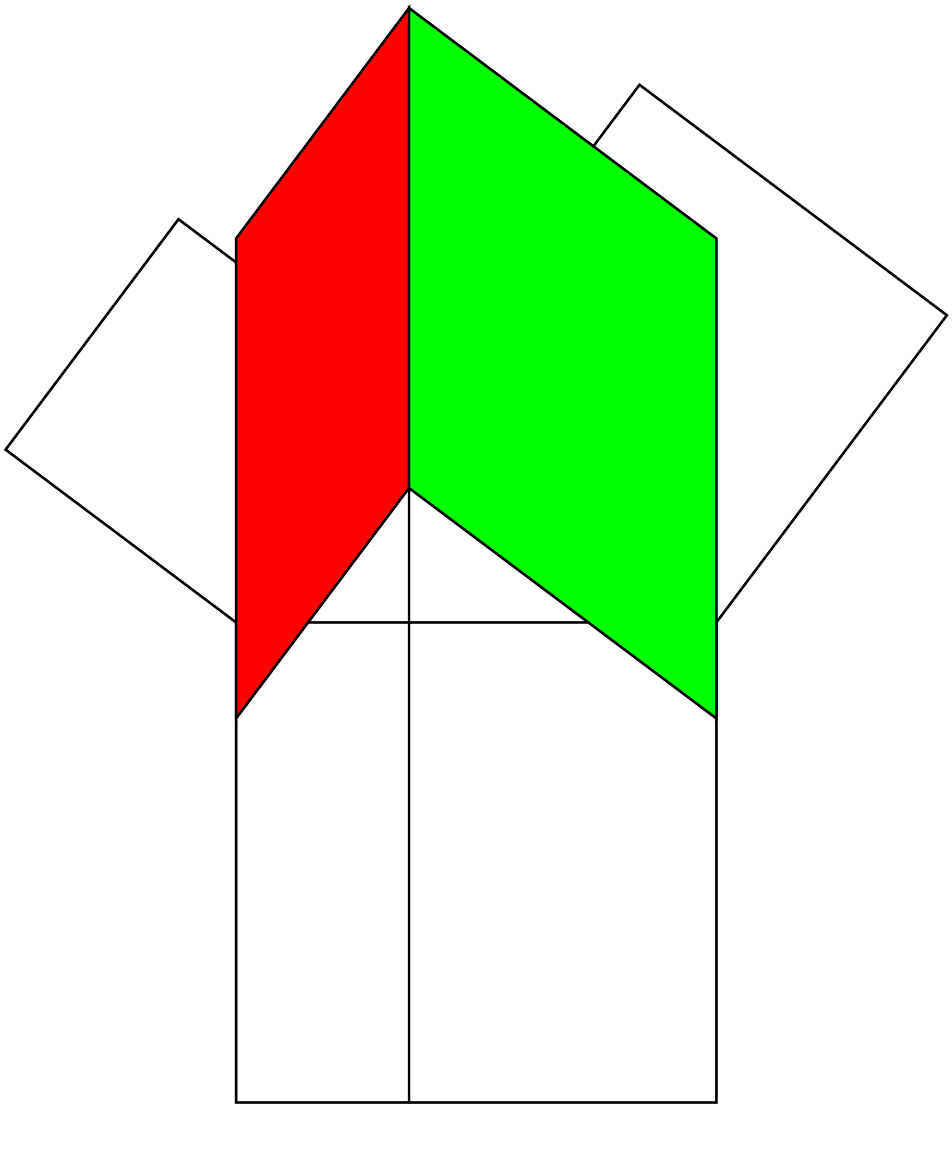


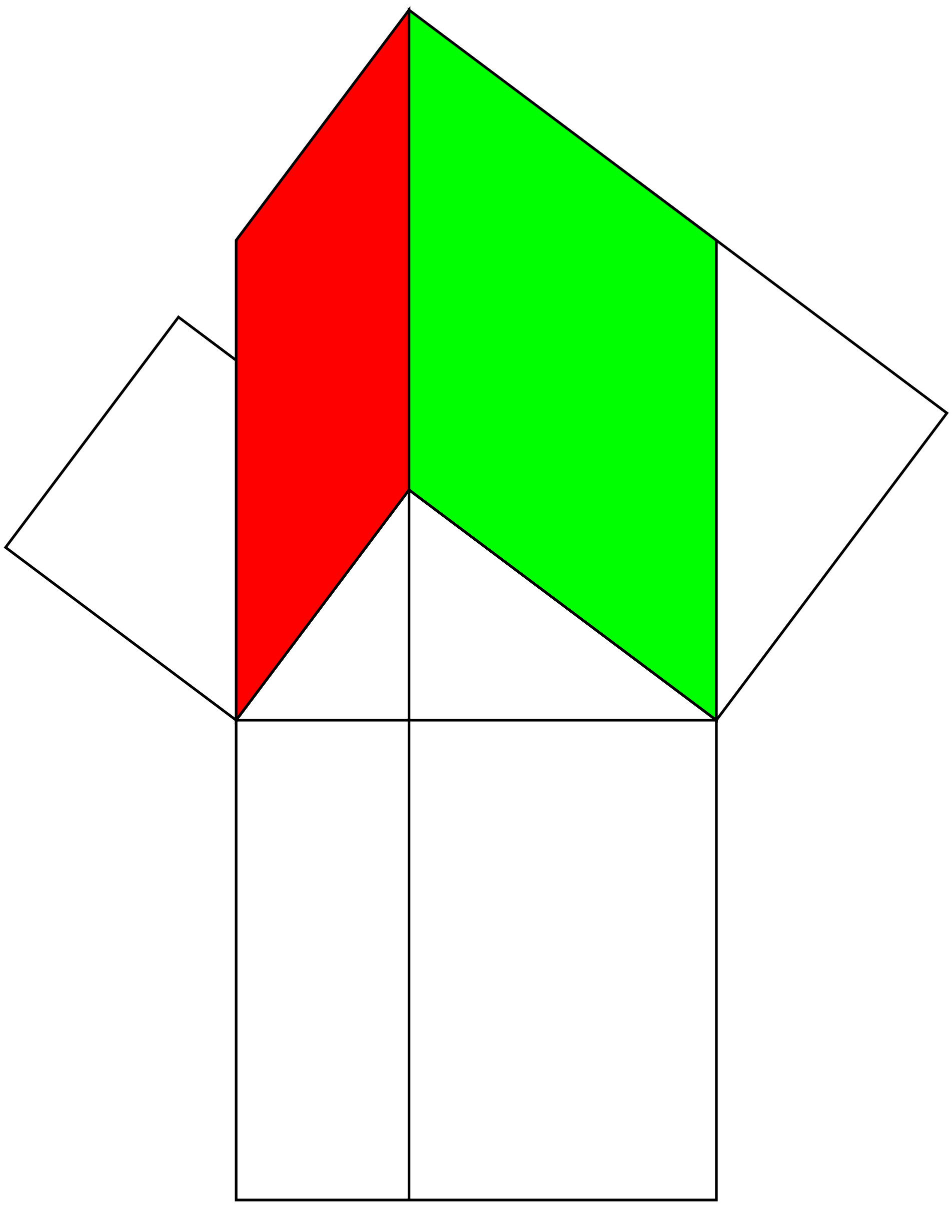


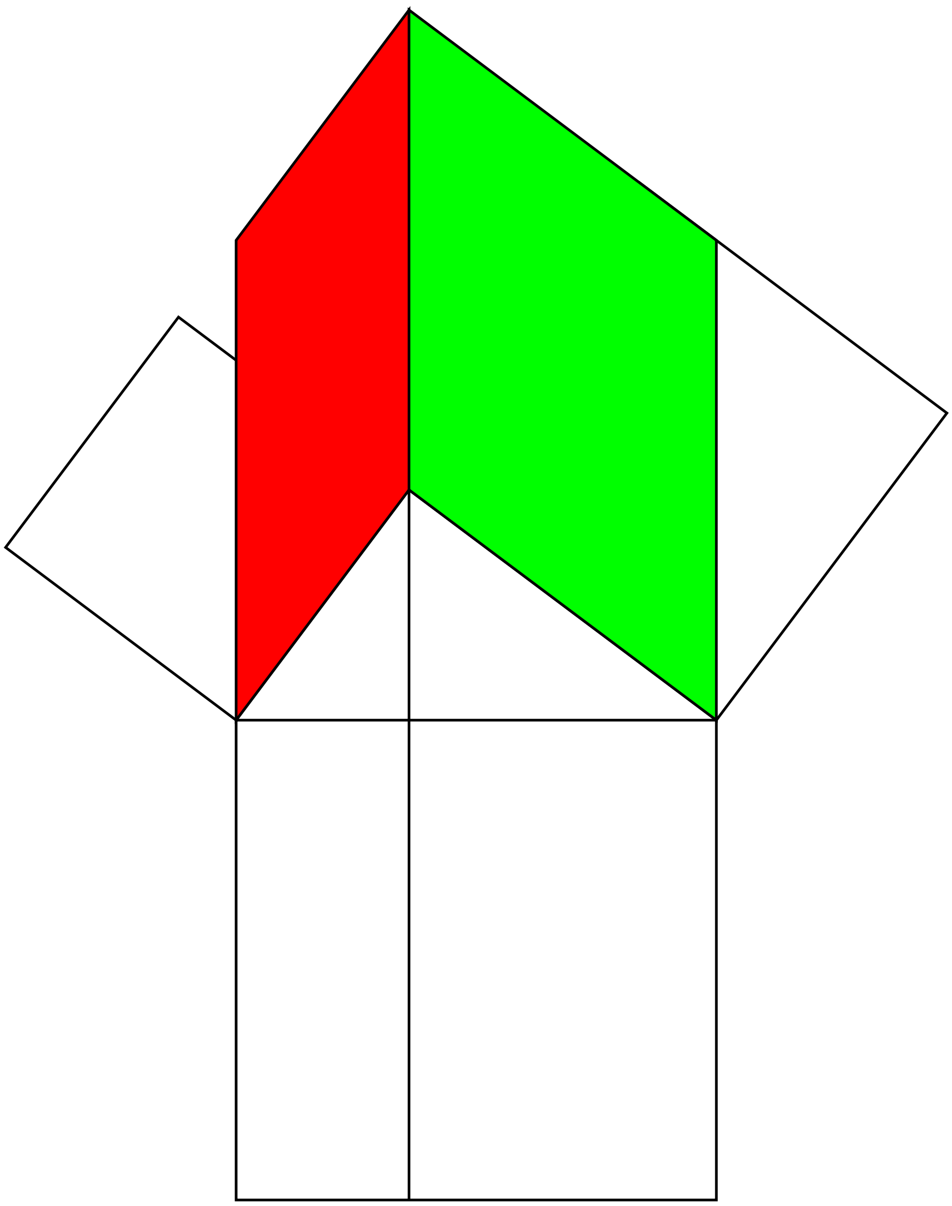


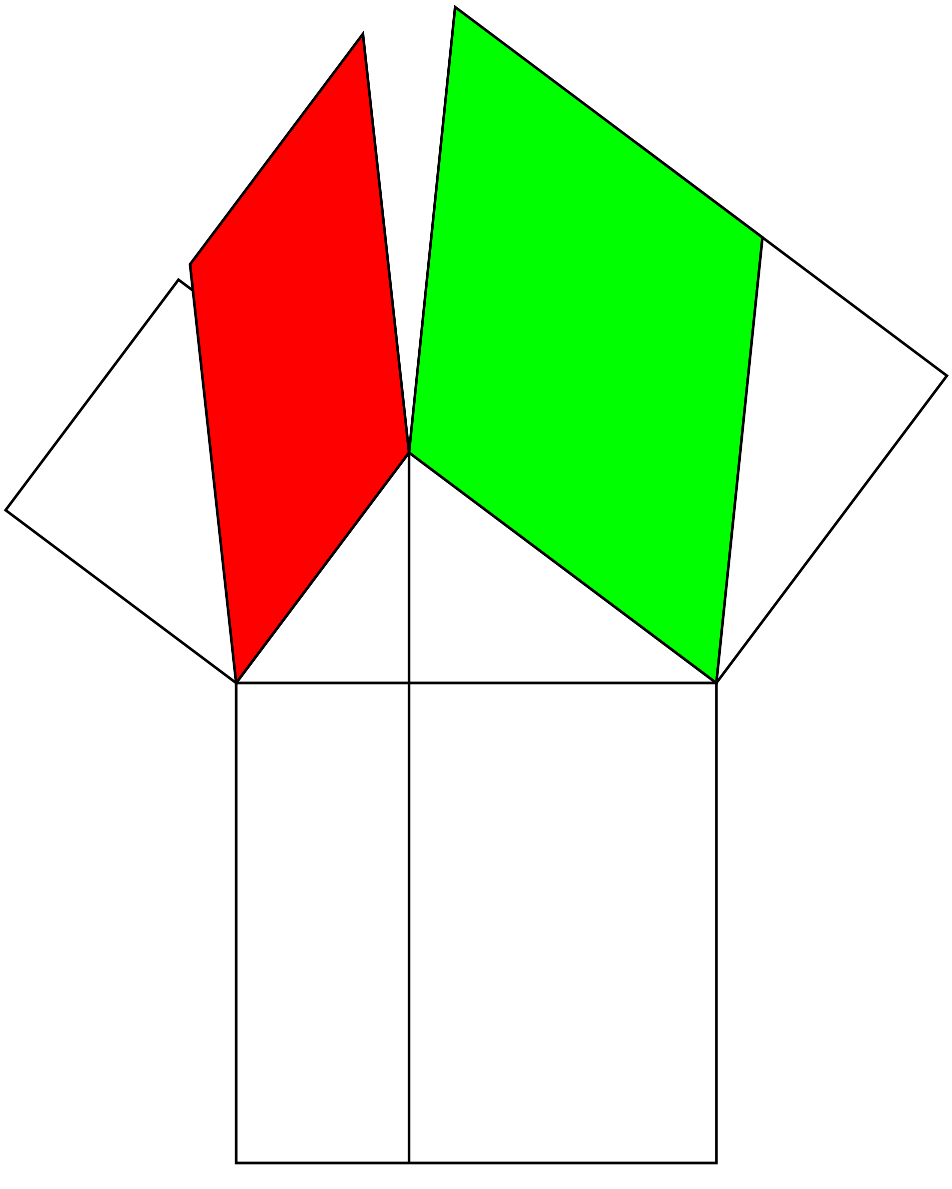


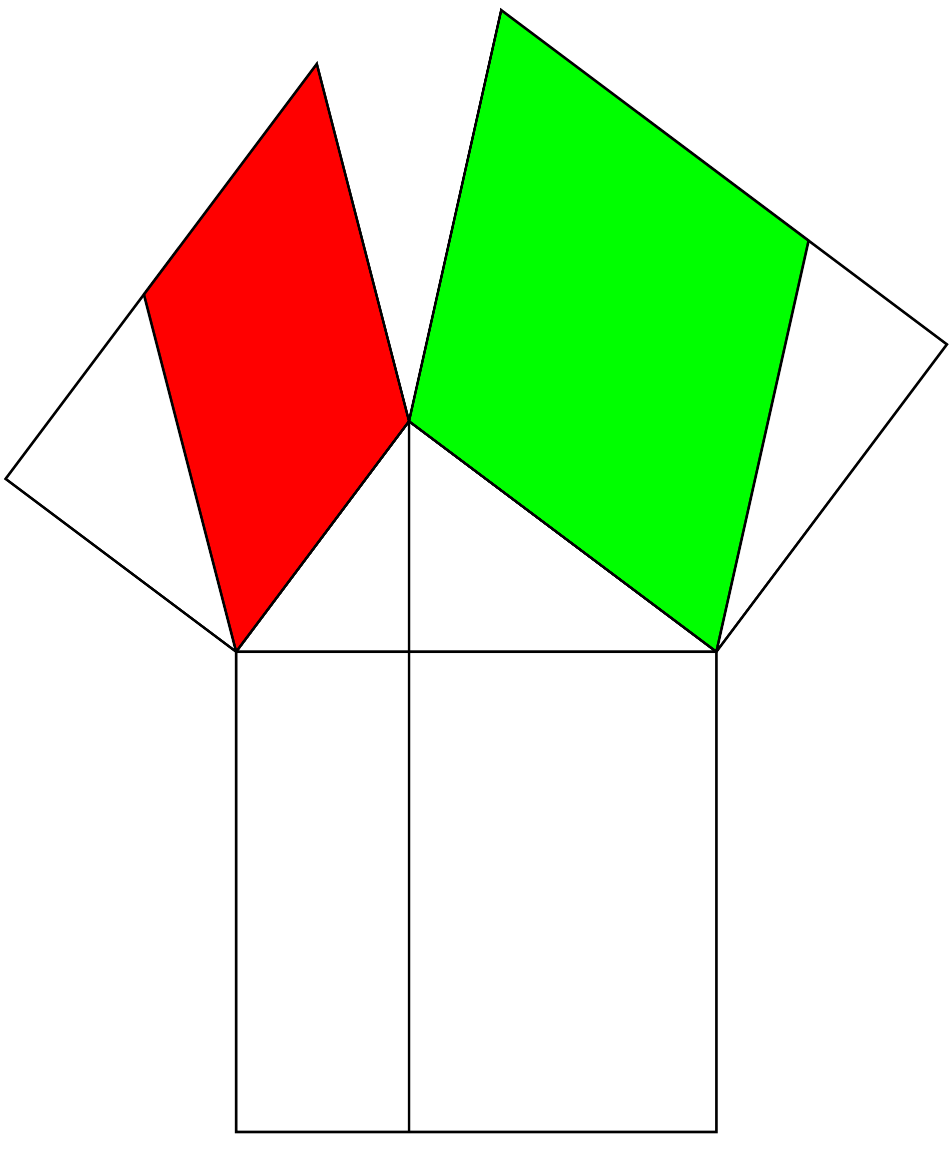


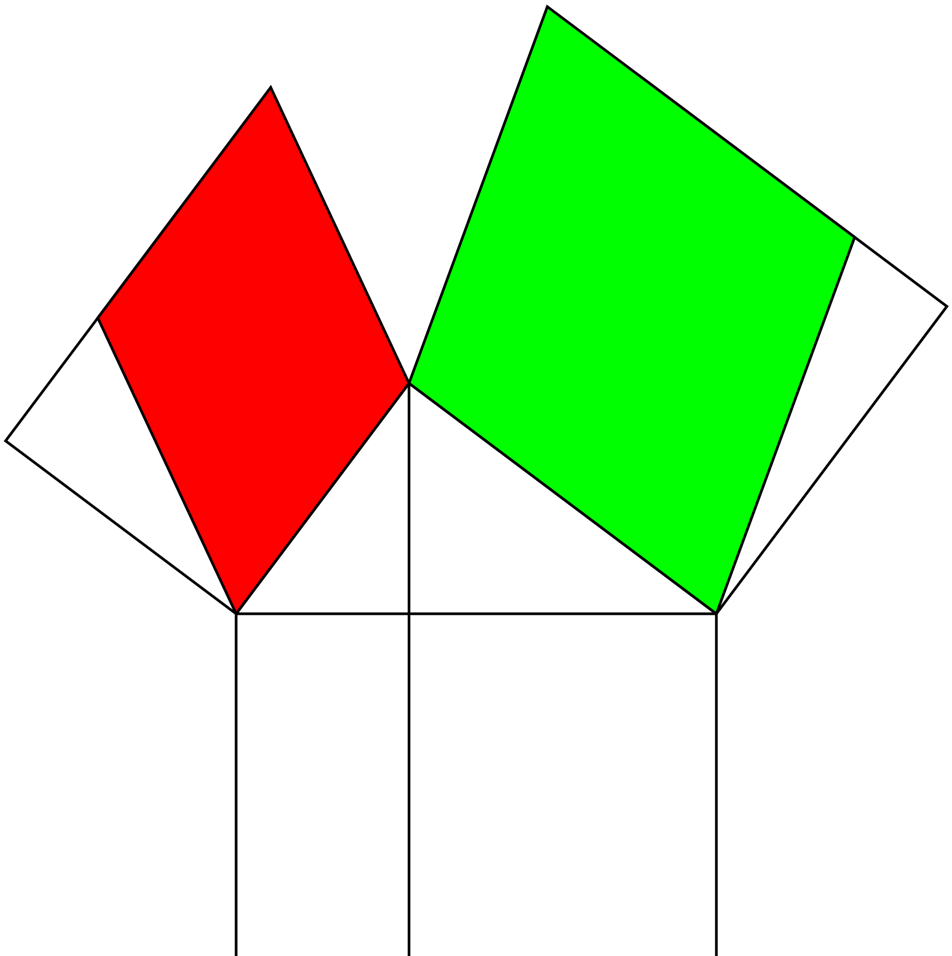


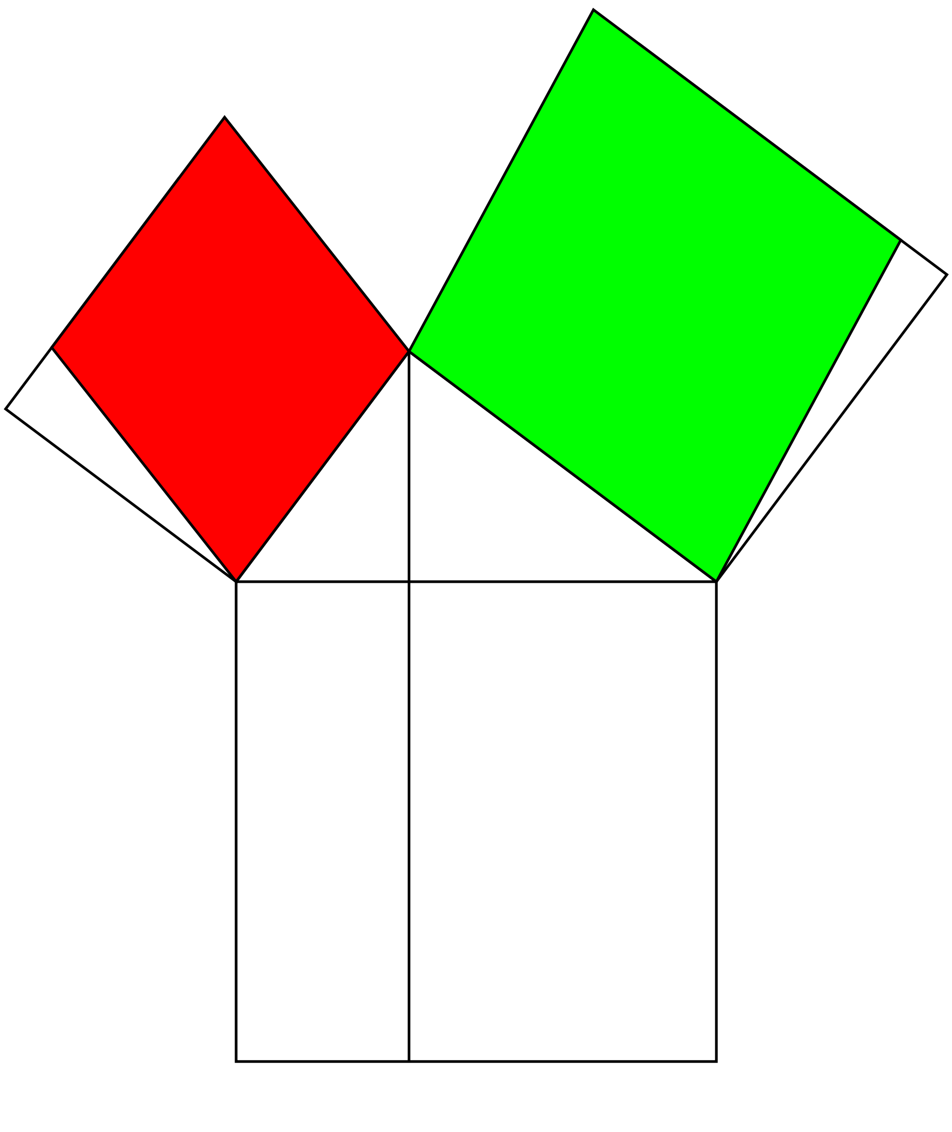


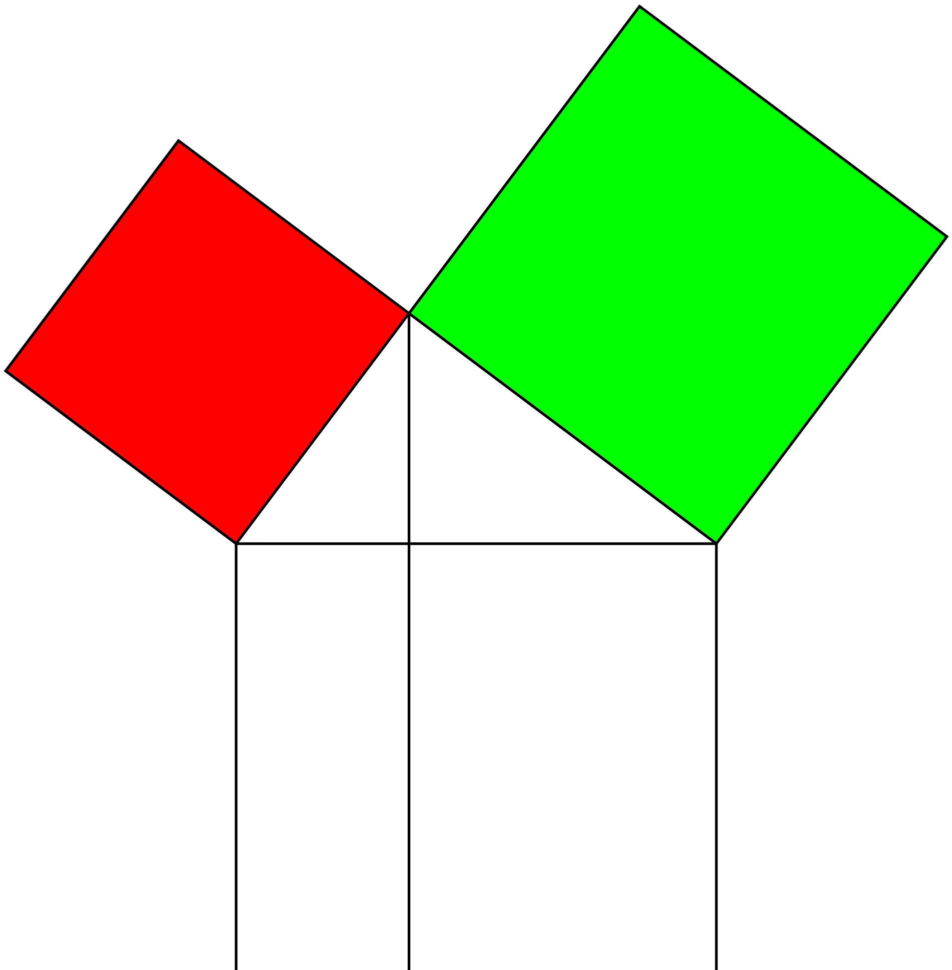






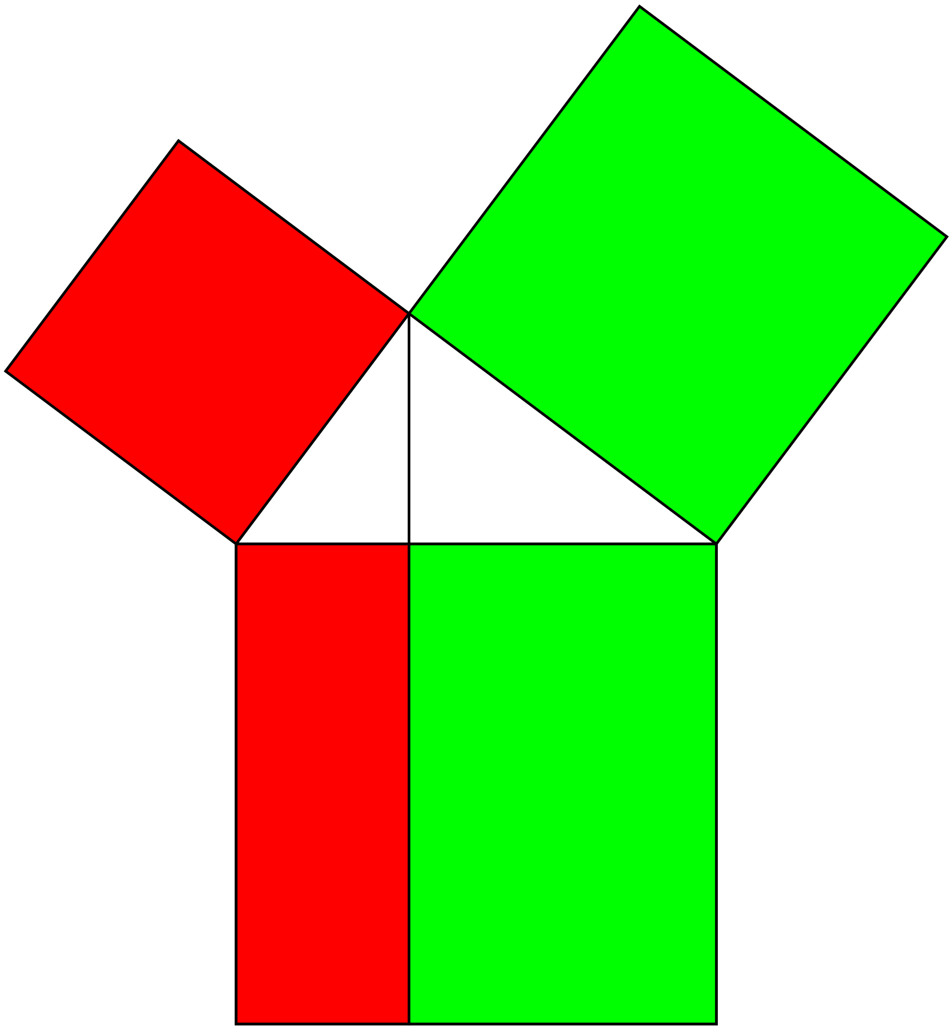






Pythagorean Theorem

Q.E.D.



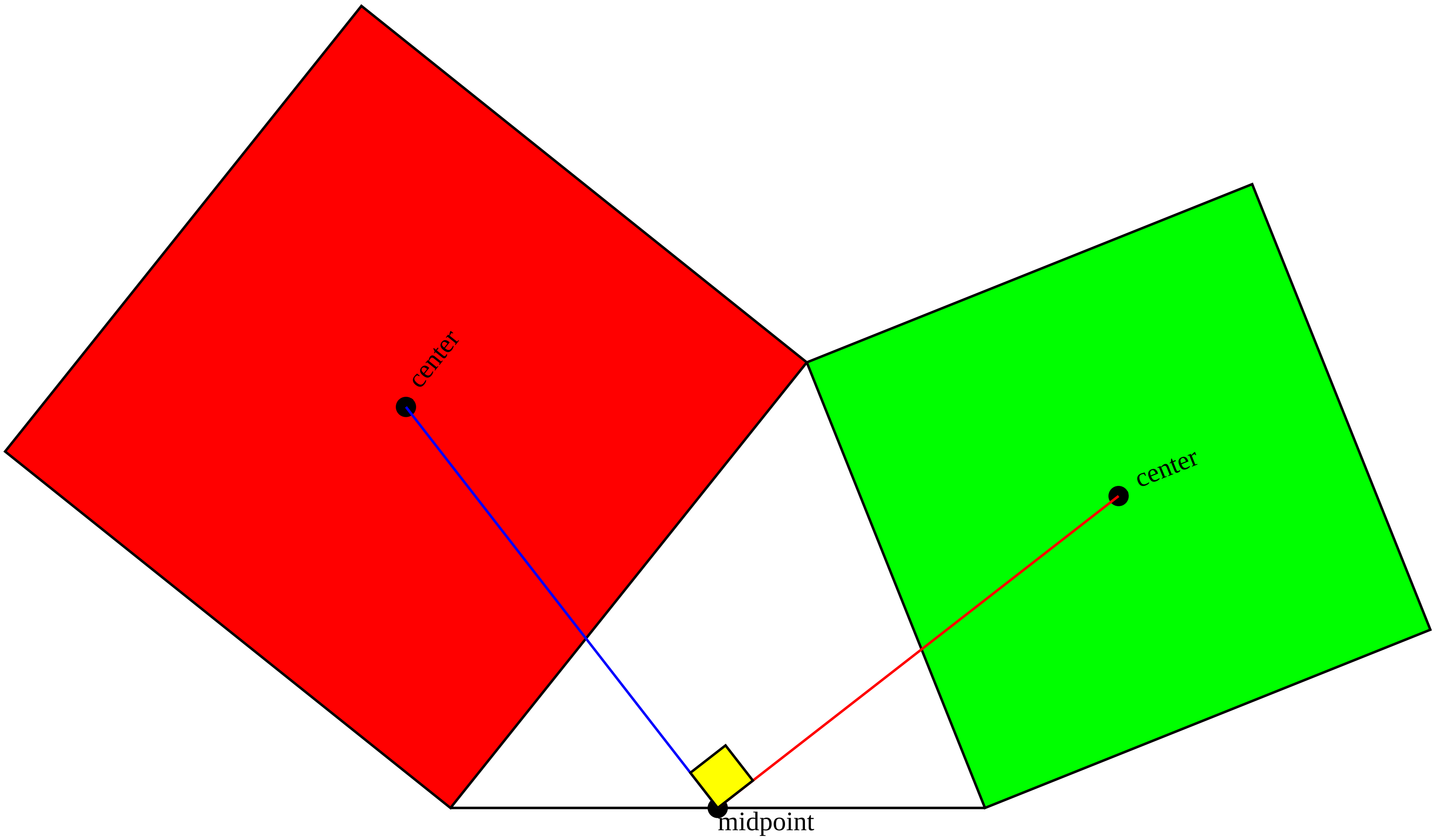
Triangle and Squares problem 1

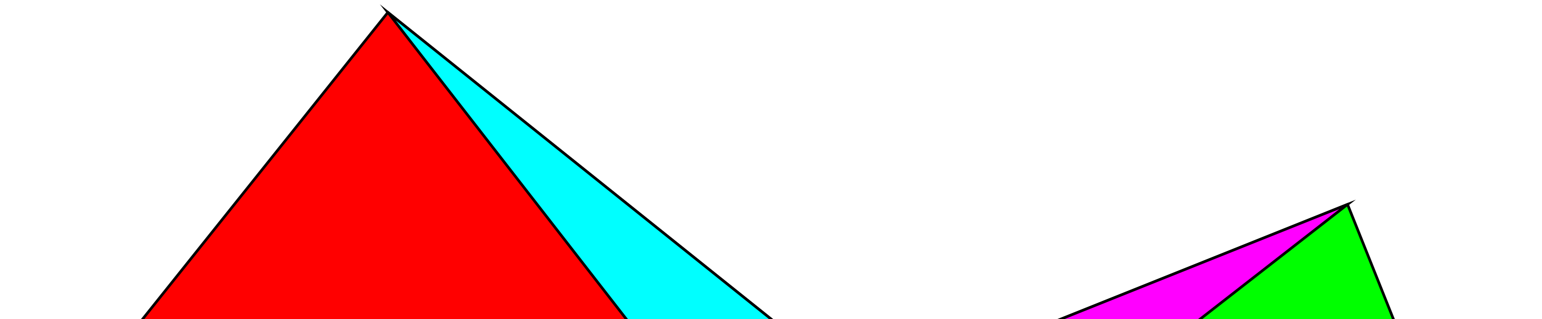
(this enhances our next proof: Van Aubel’s Theorem)

Triangle and Sqaures problem 1

Prove that =

and perpendicular to

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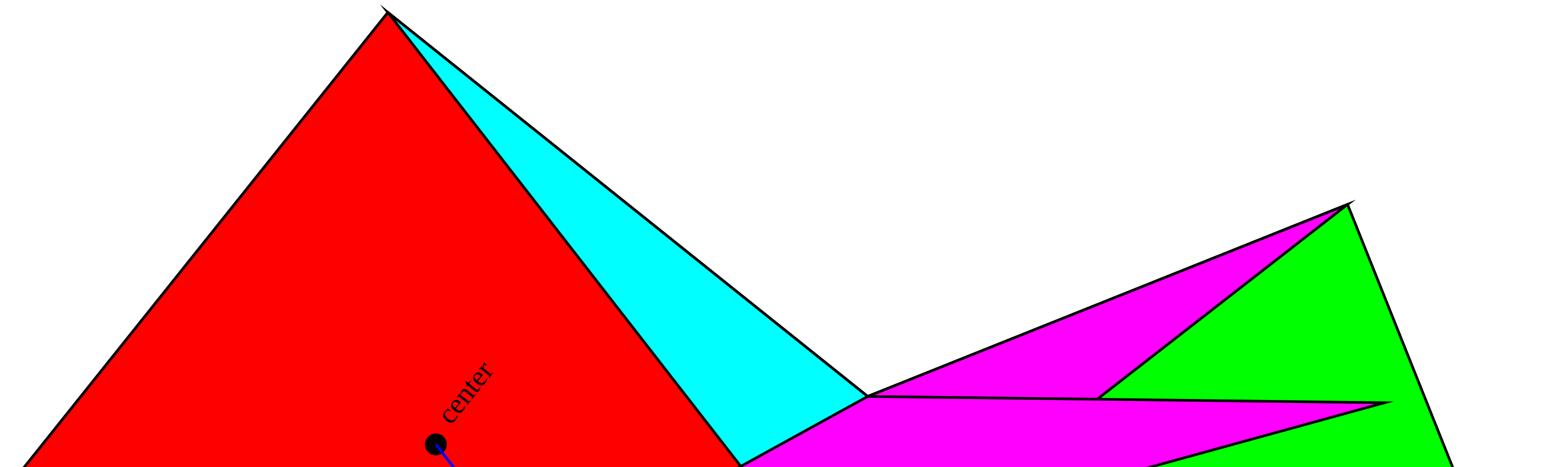
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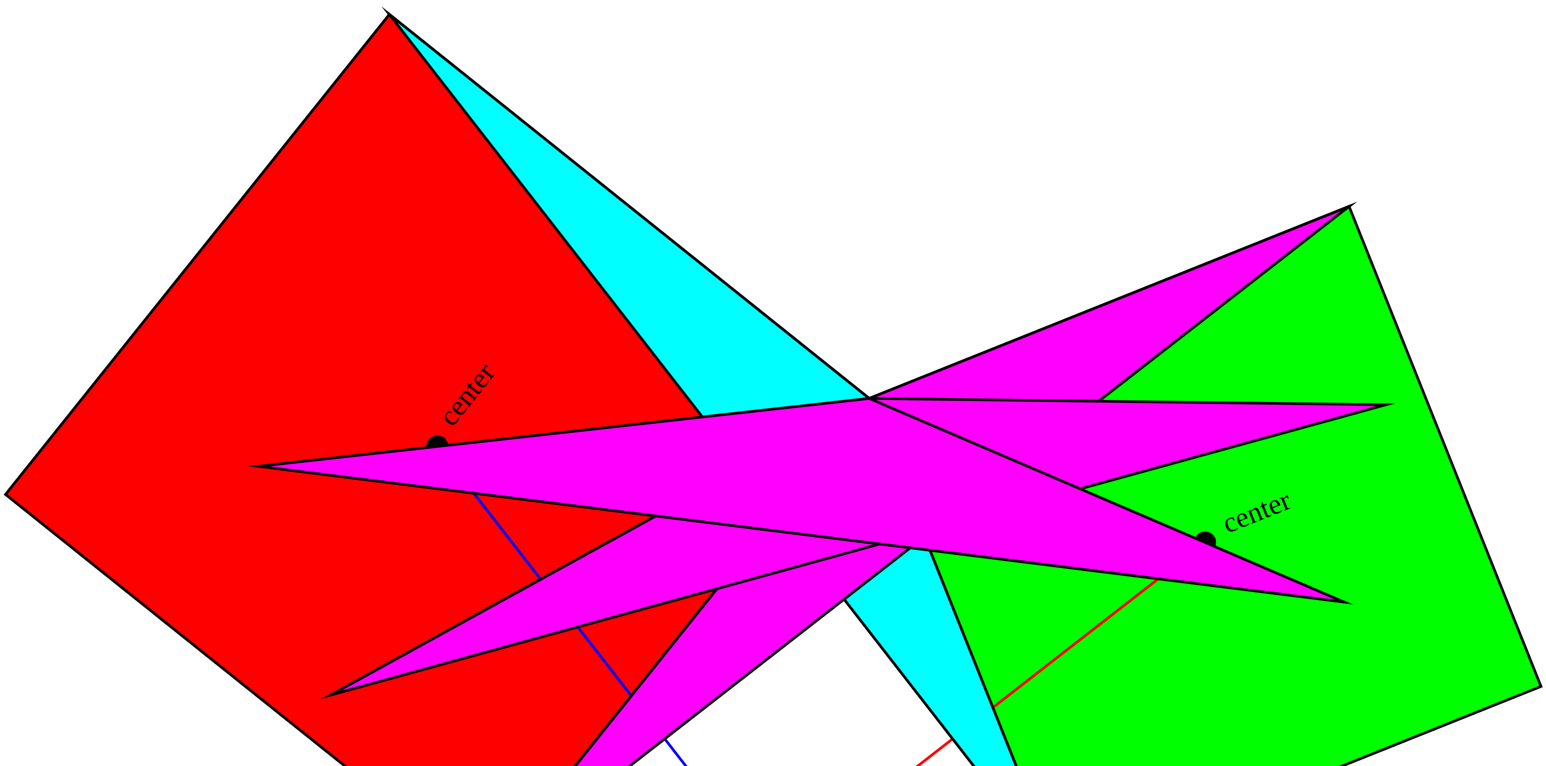

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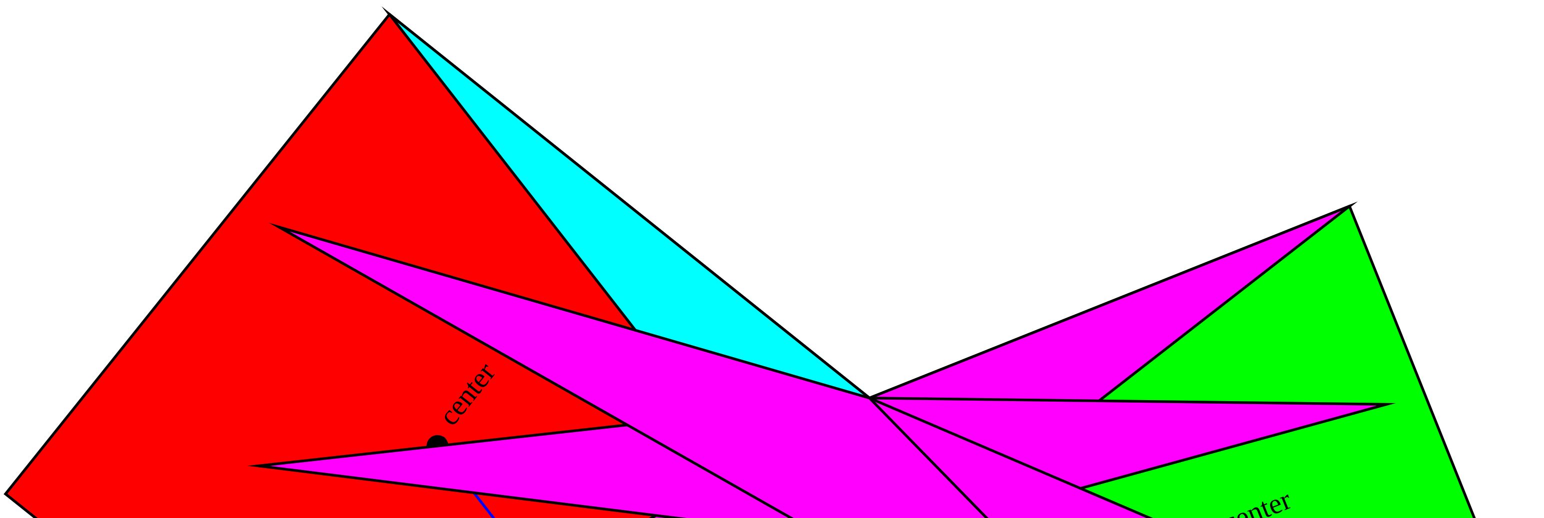
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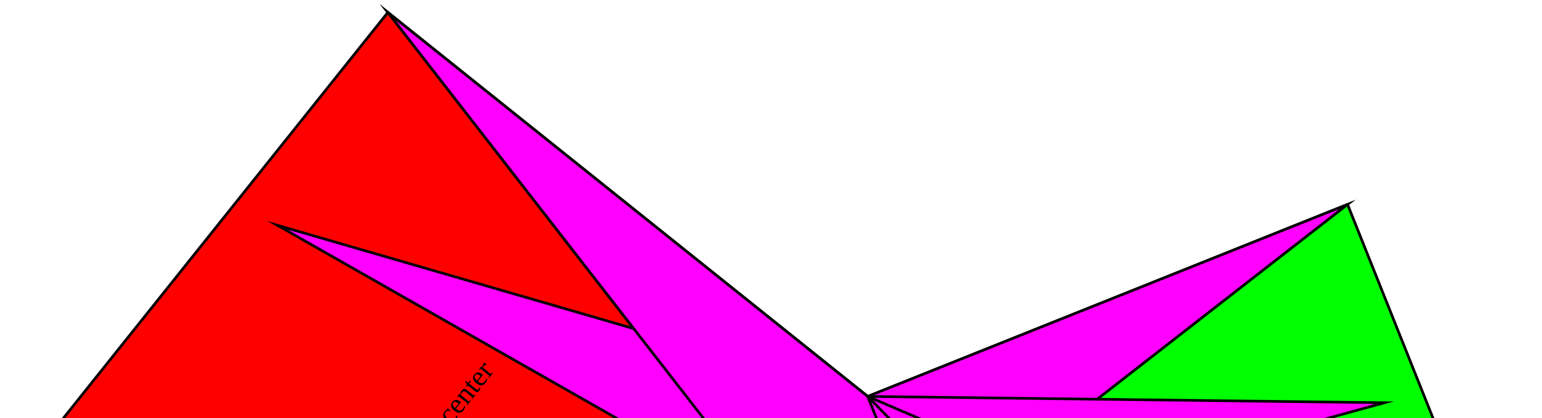

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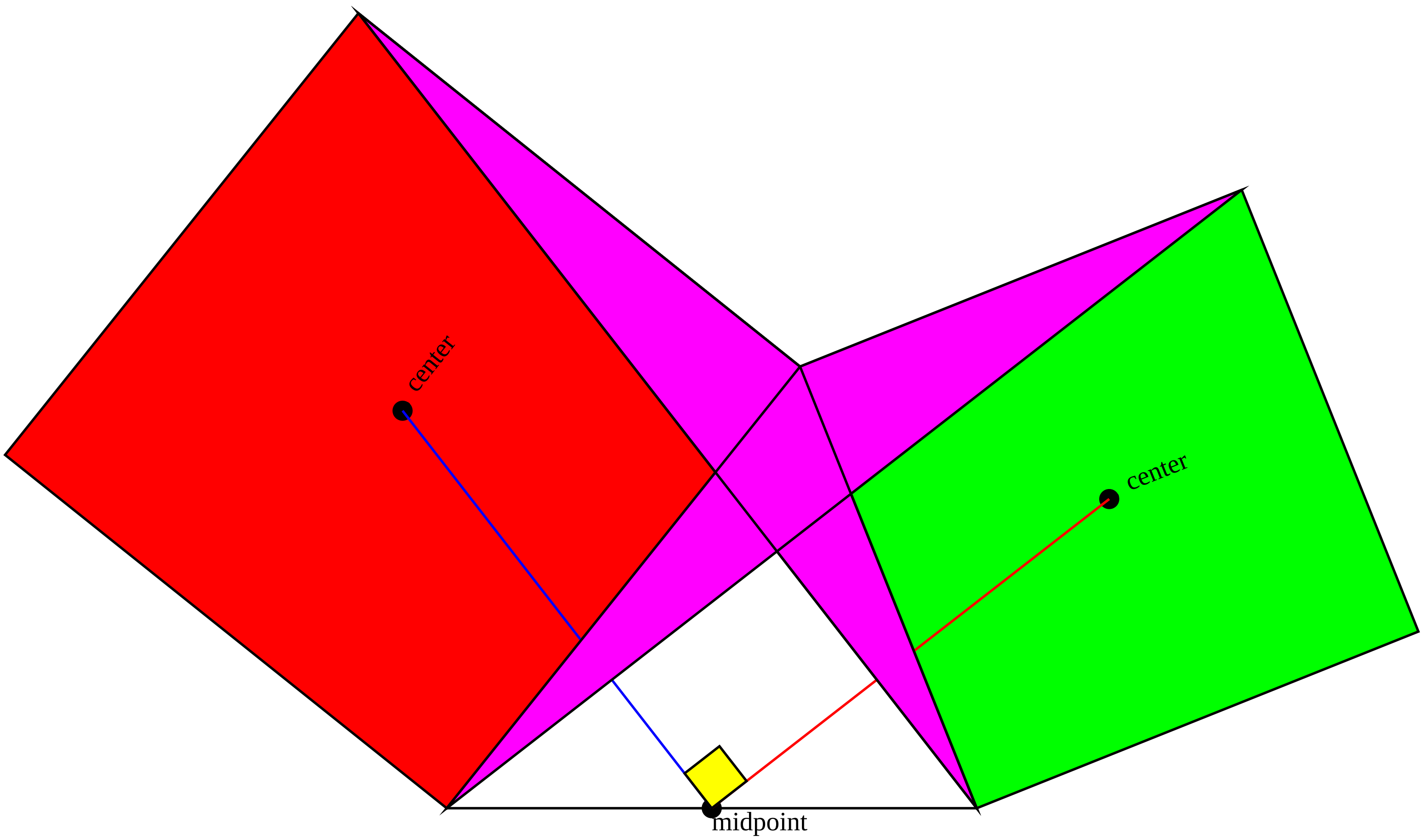
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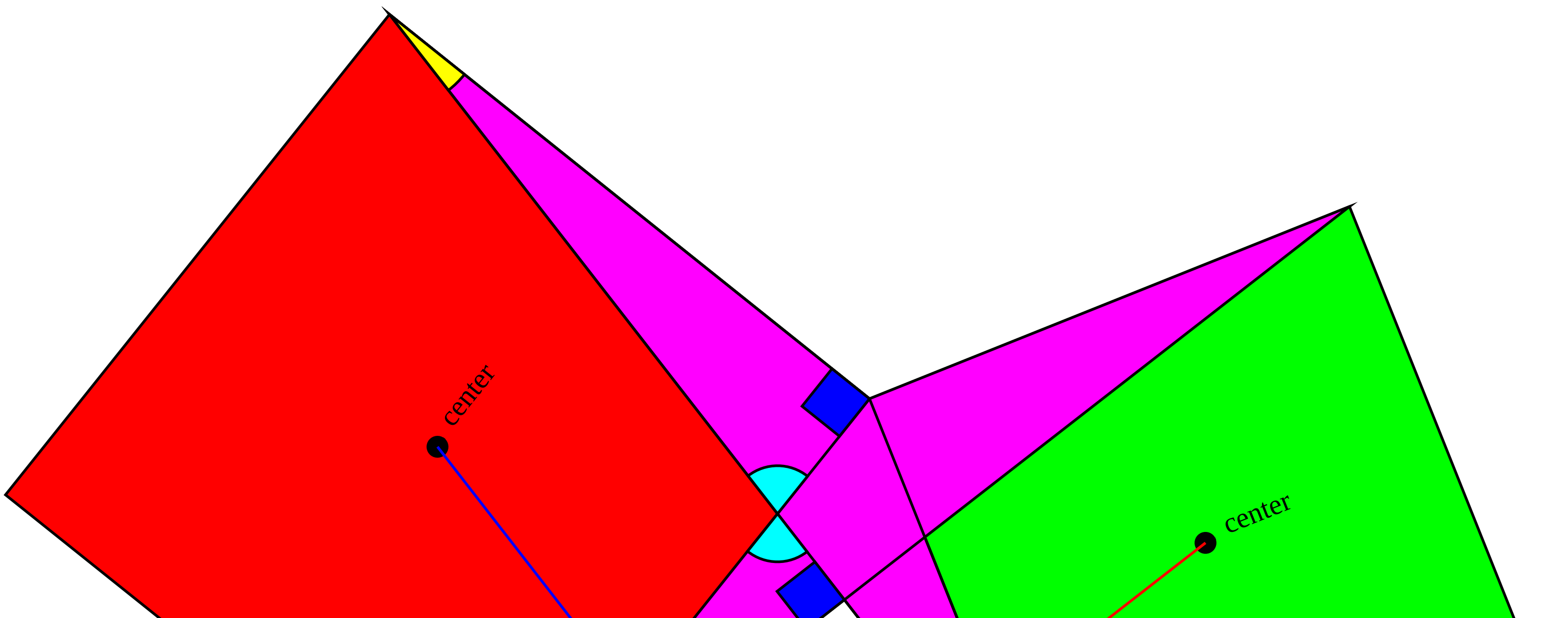
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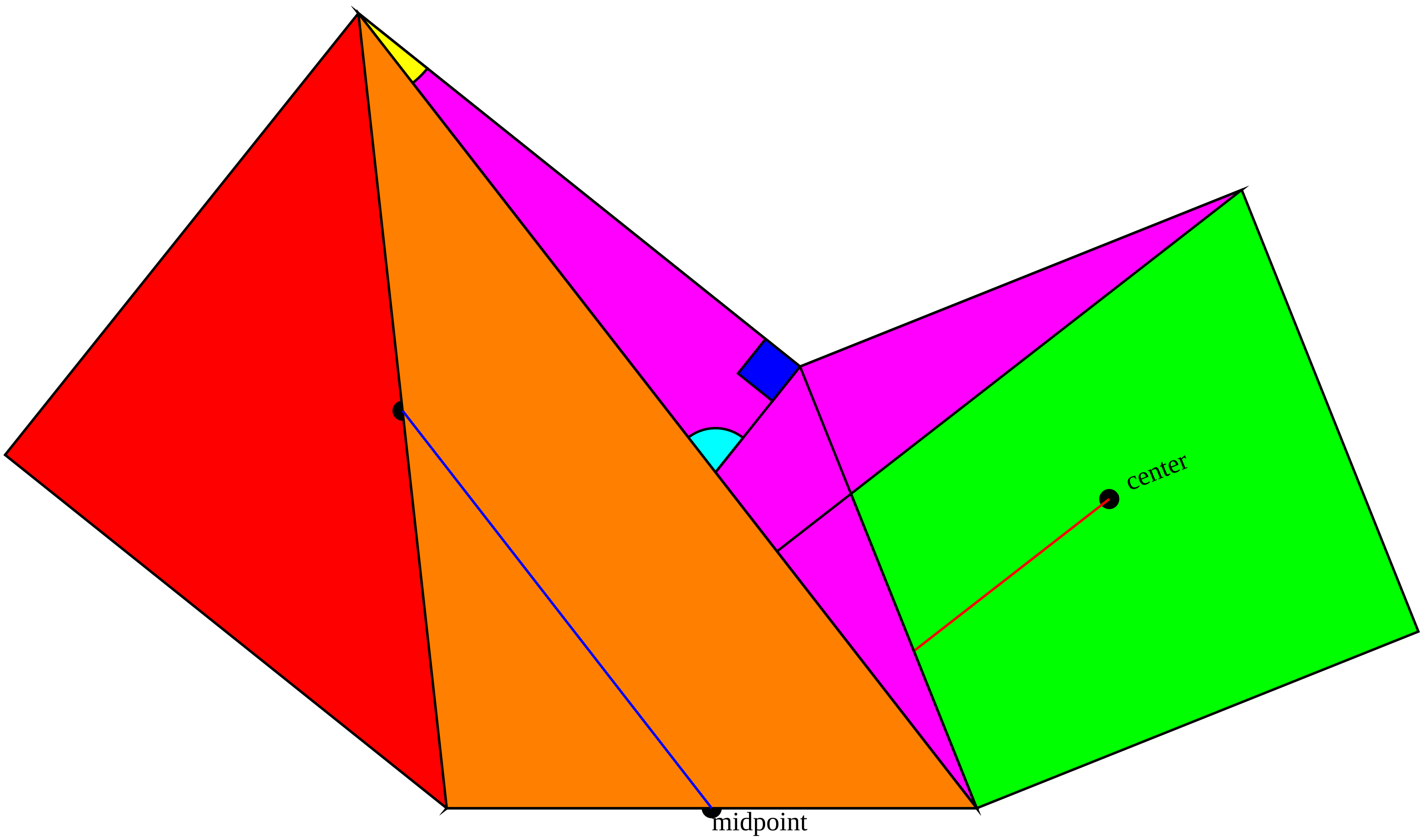
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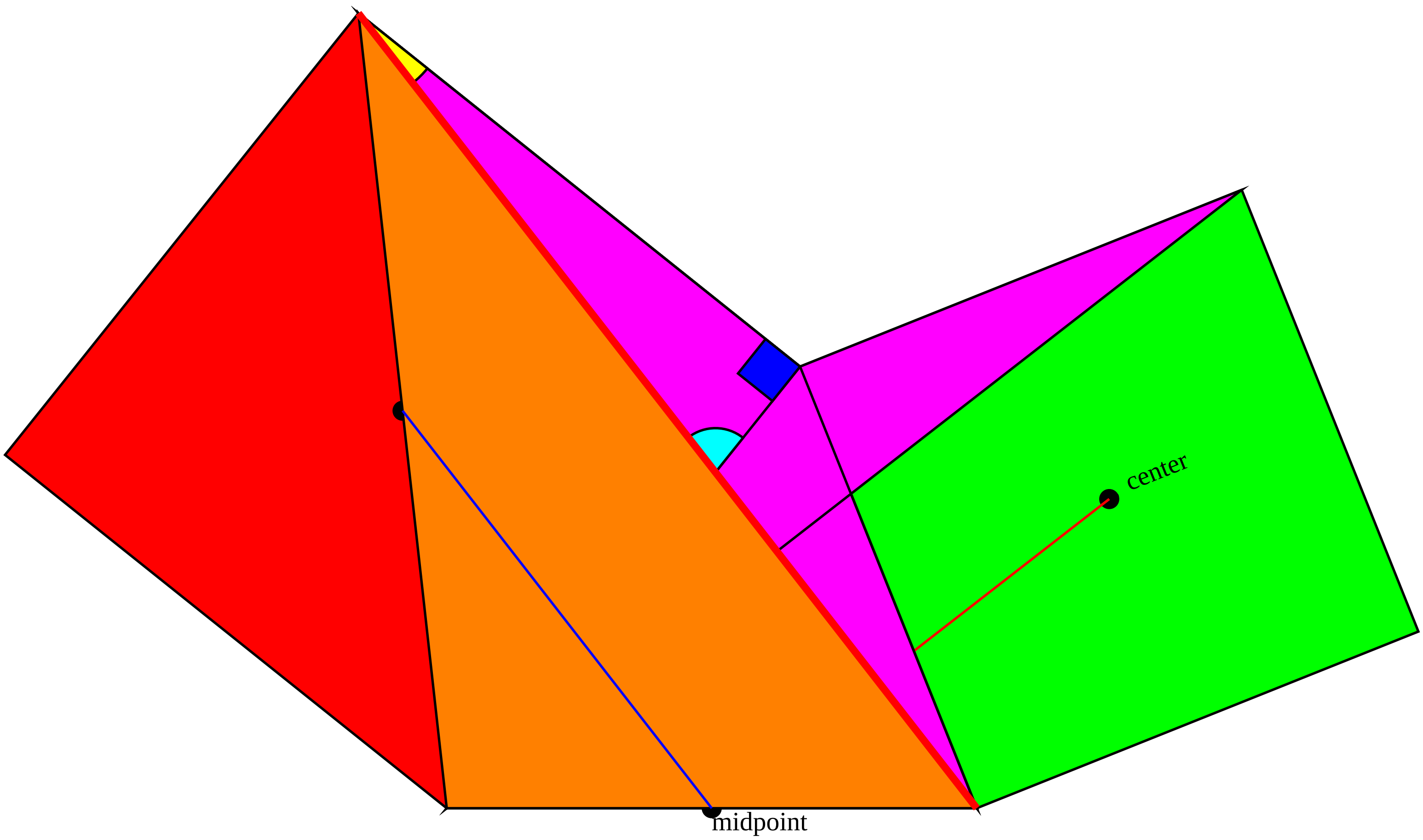
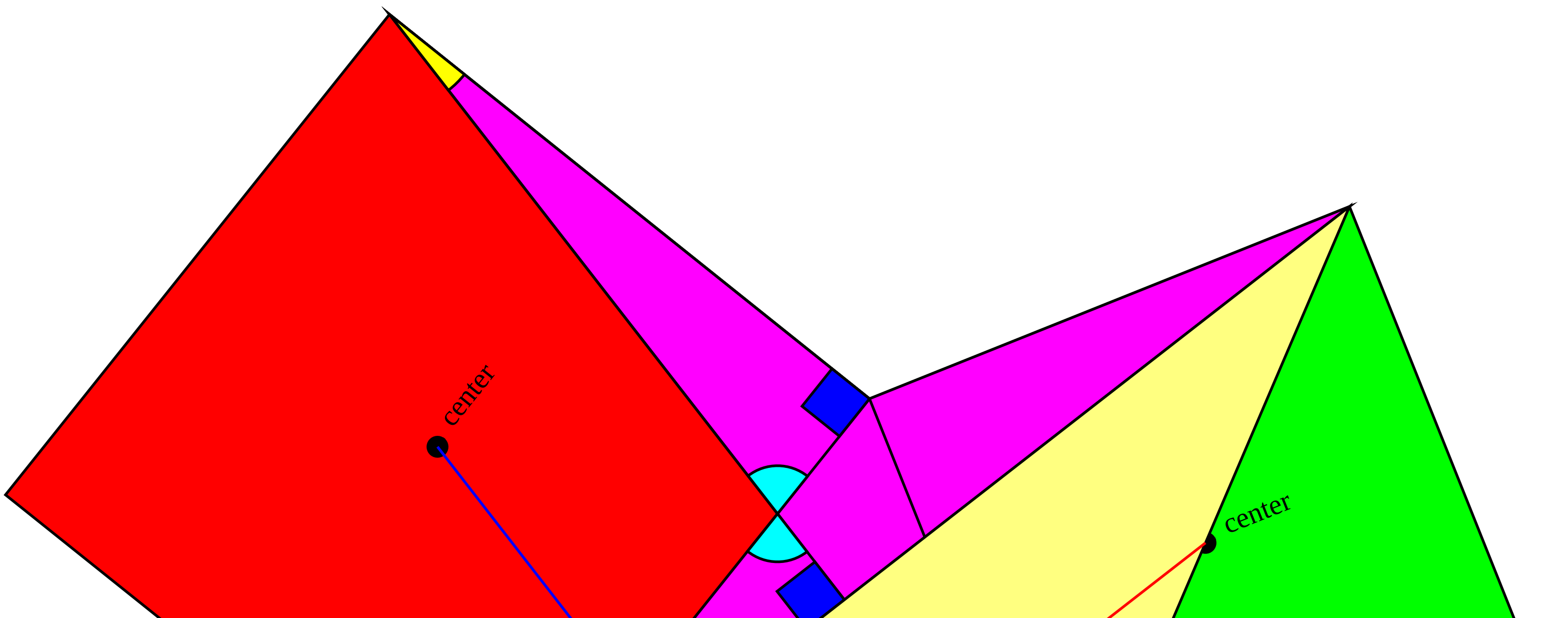
Triangle and Sqaures problem 1

Therefore is half of

and parallel to (reason: mid-line)





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Triangle and Sqaures problem 1

Therefore is half of

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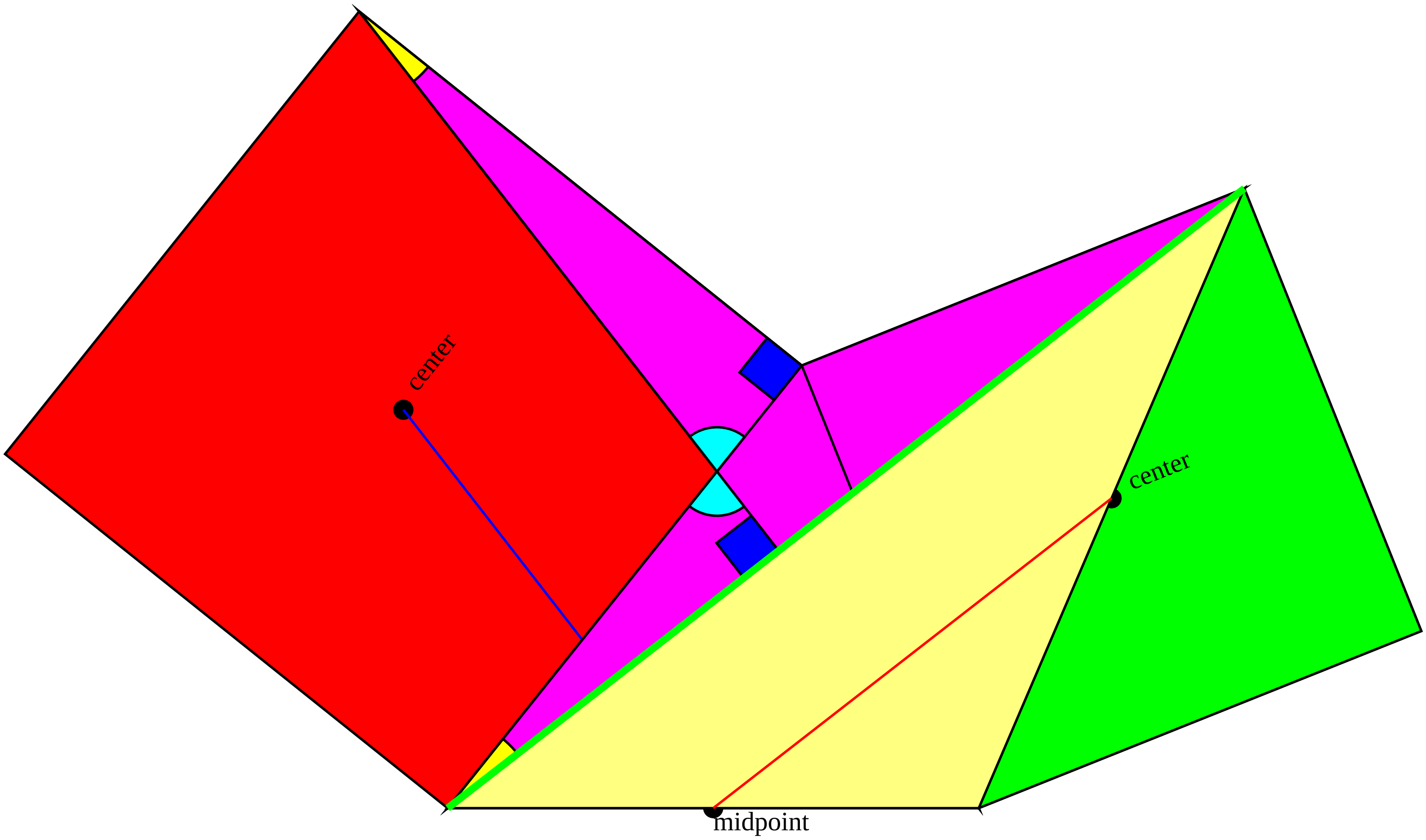
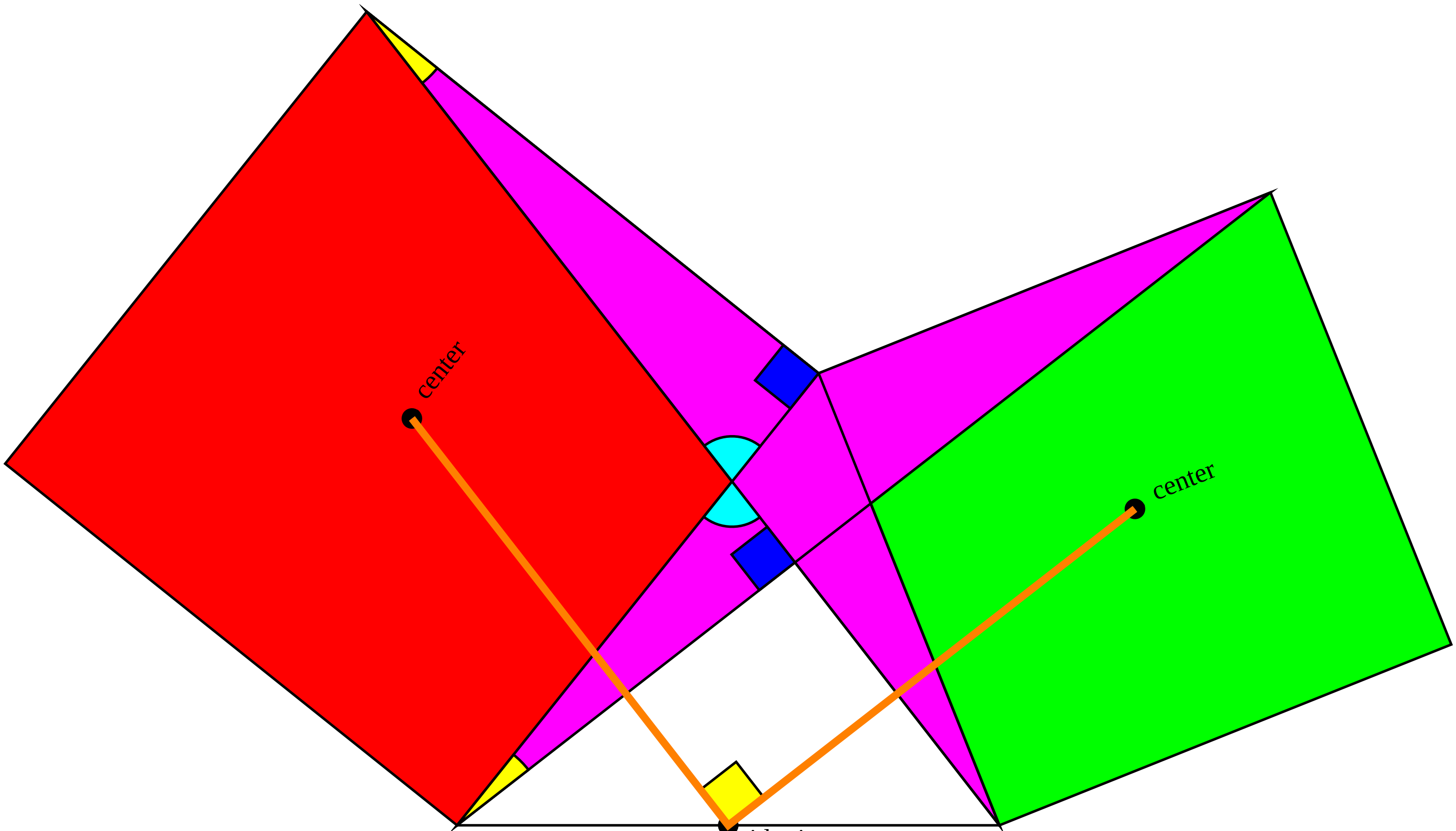


Triangle and Sqaures problem 1

Q.E.D.

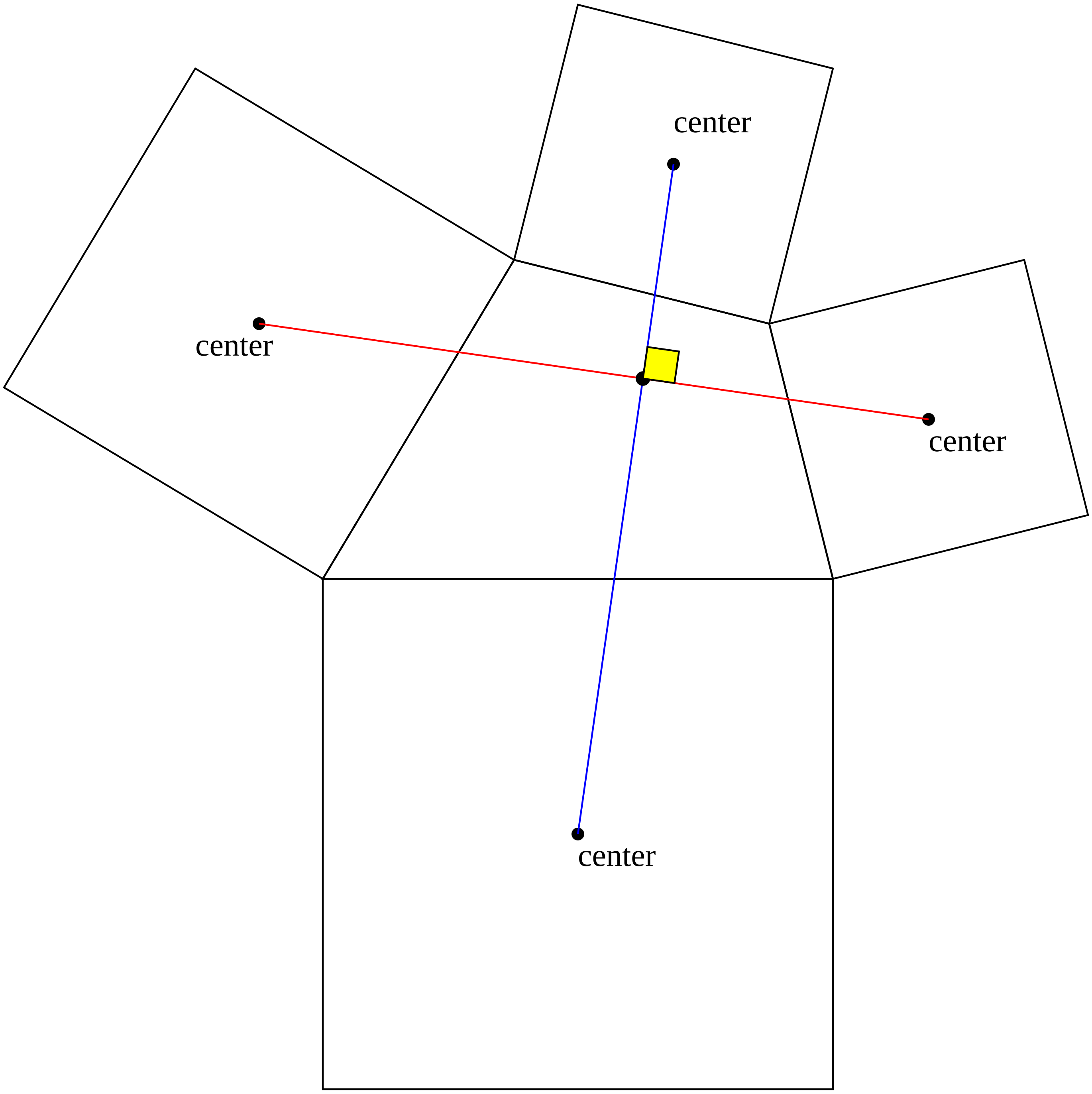


Van Aubel's Theorem

Van Aubel’s Theorem

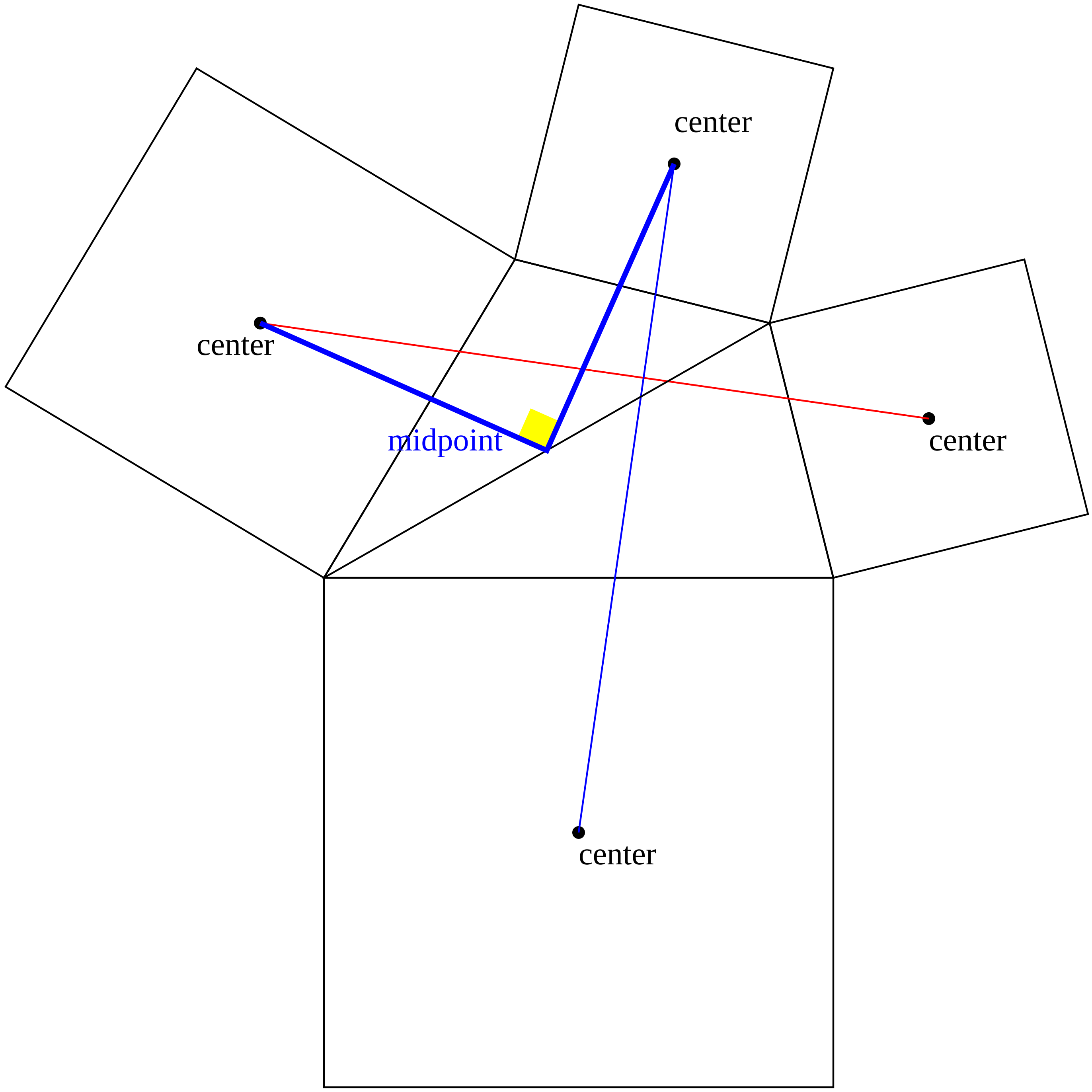
Prove that =

and perpendicular to



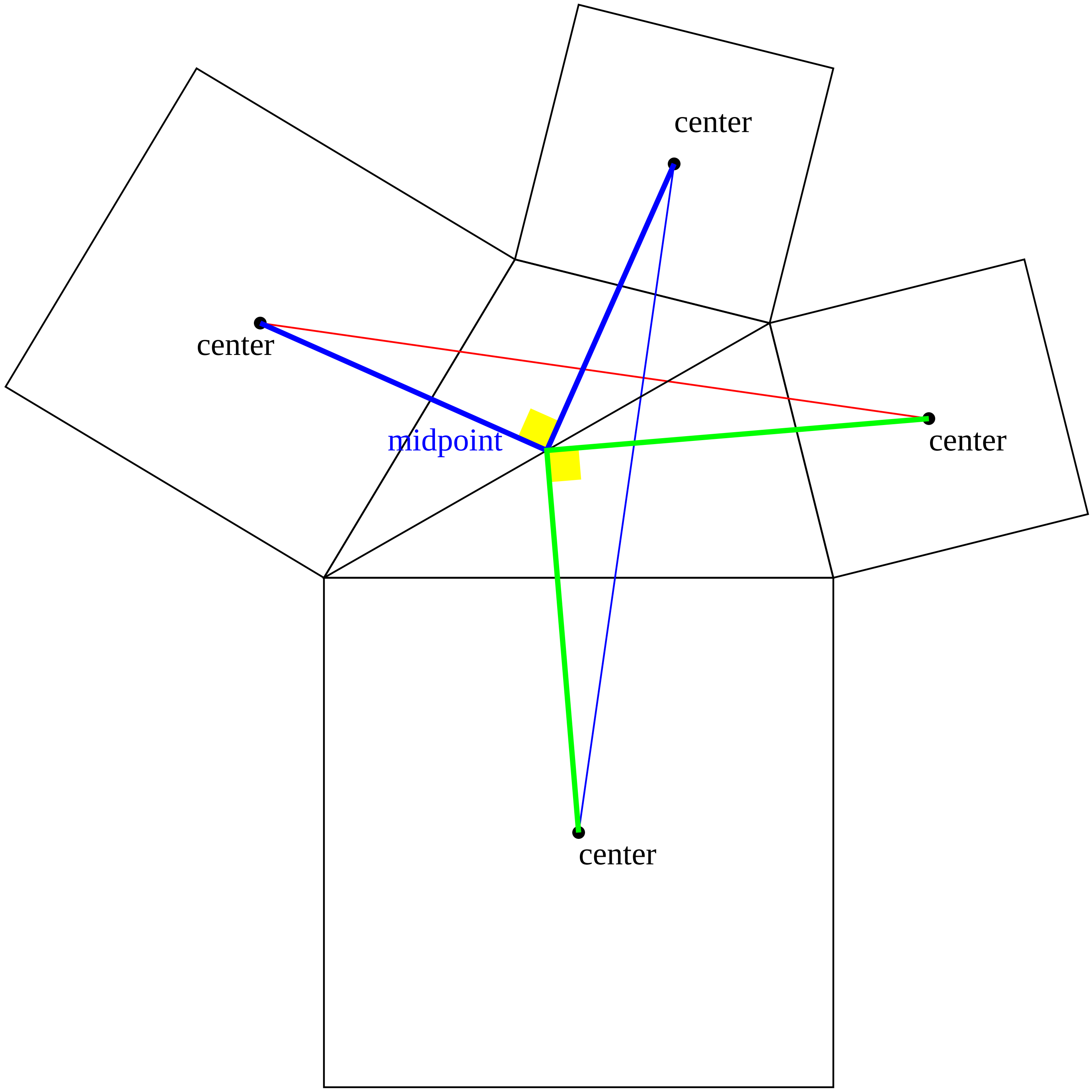
Van Aubel's Theorem

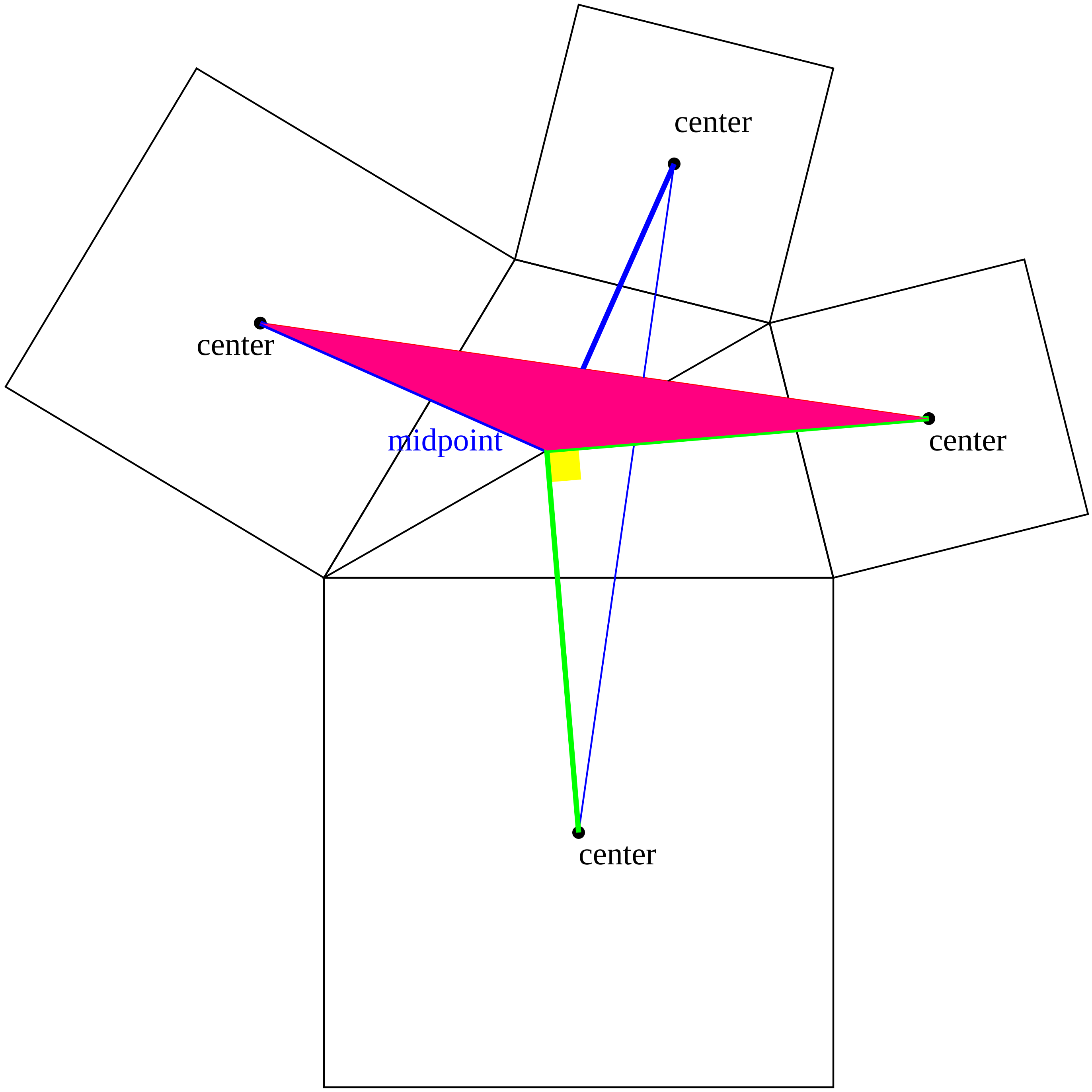
Reason: Triangle and Squares problem 1 (Previous section)



Van Aubel’s Theorem

Reason: Triangle and Squares problem 1 (Previous section)

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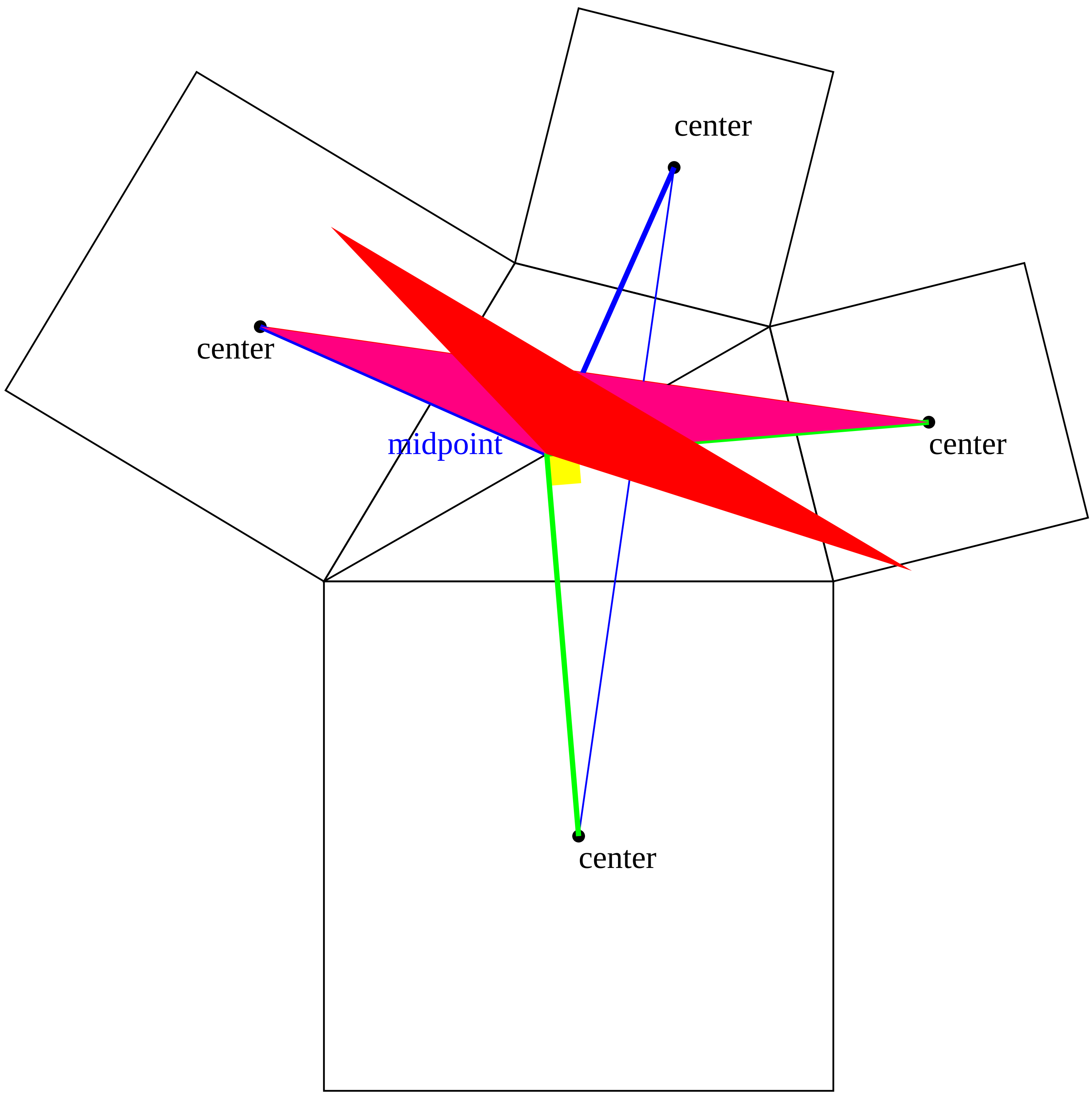
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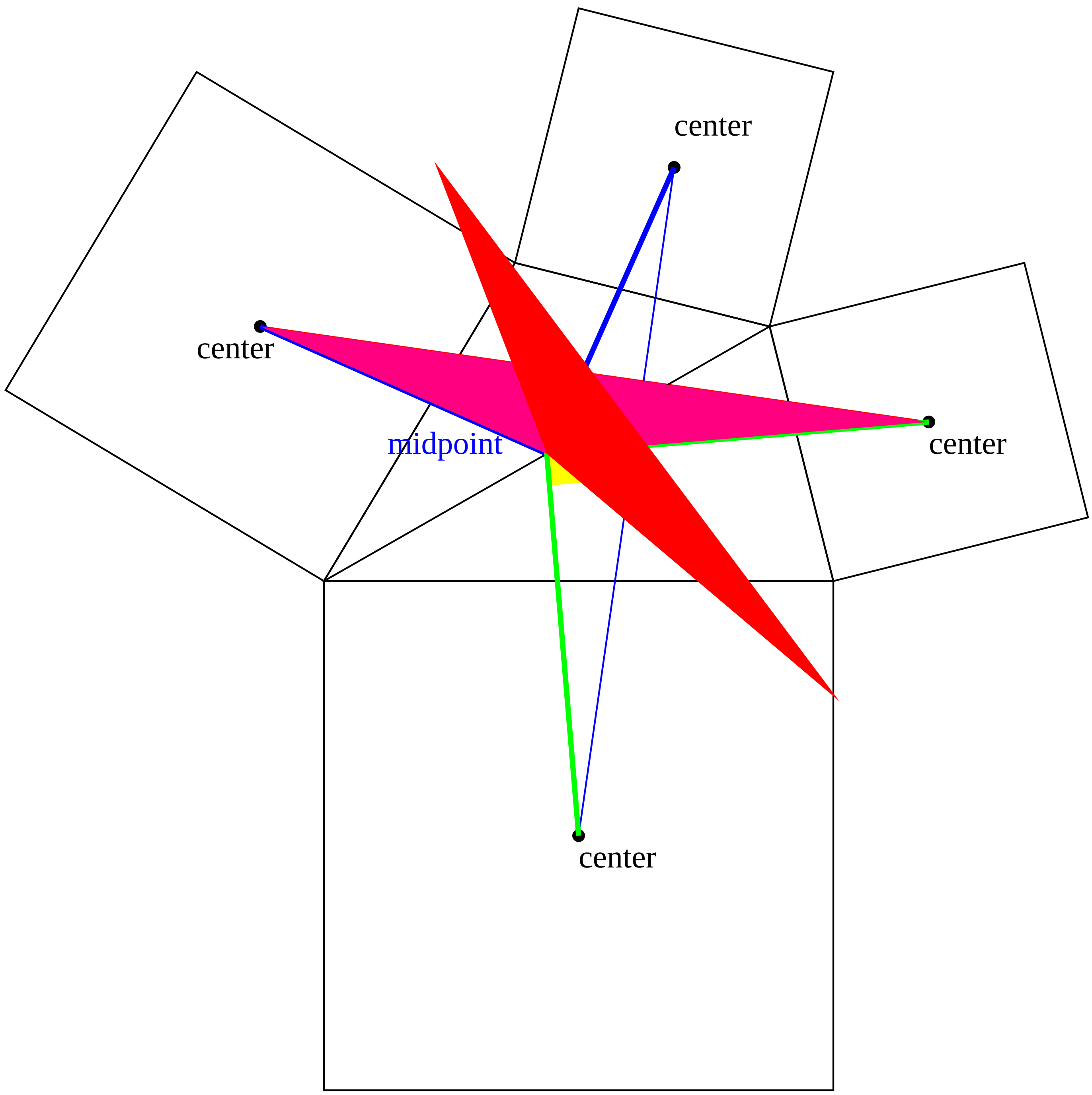
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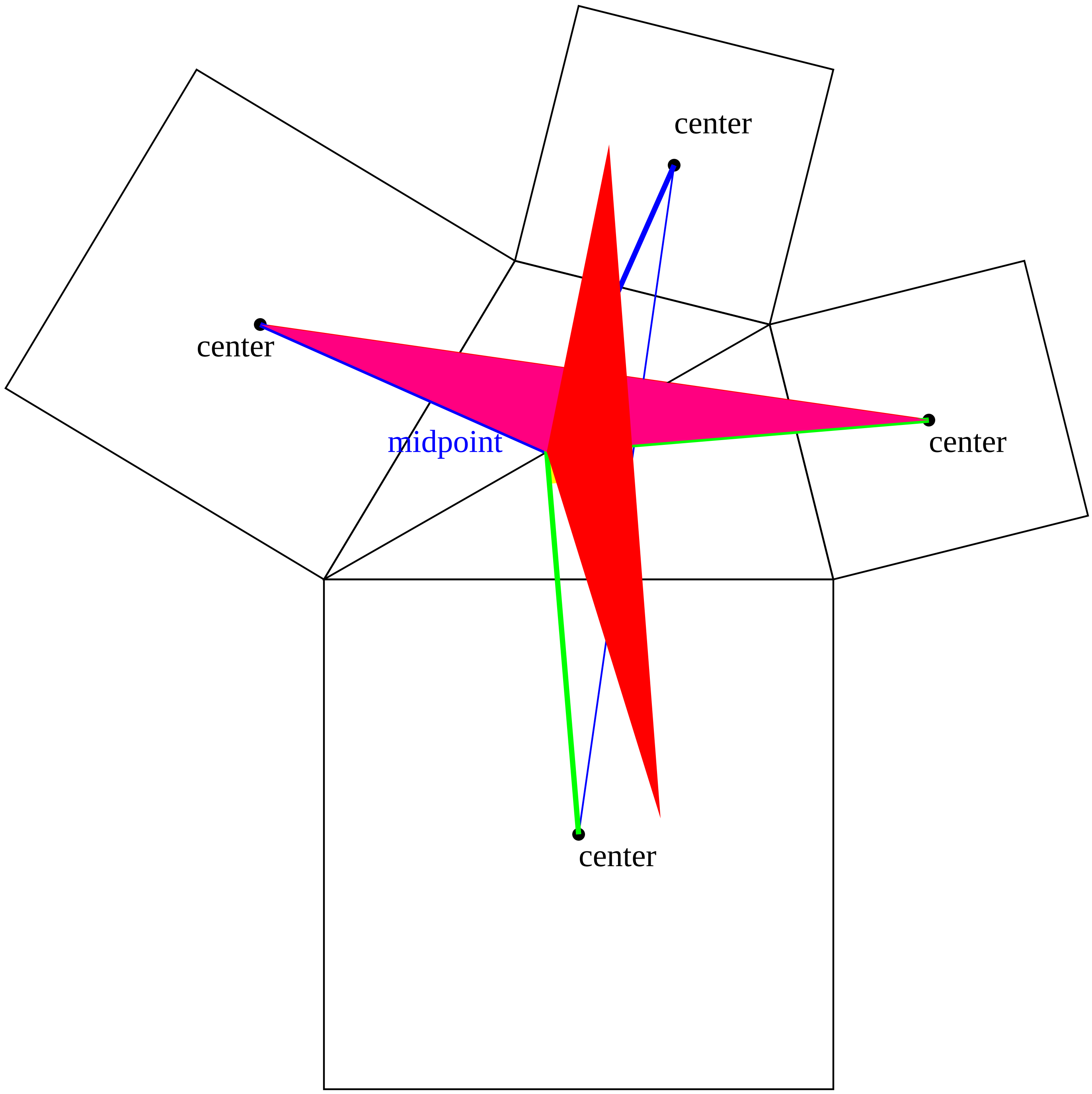
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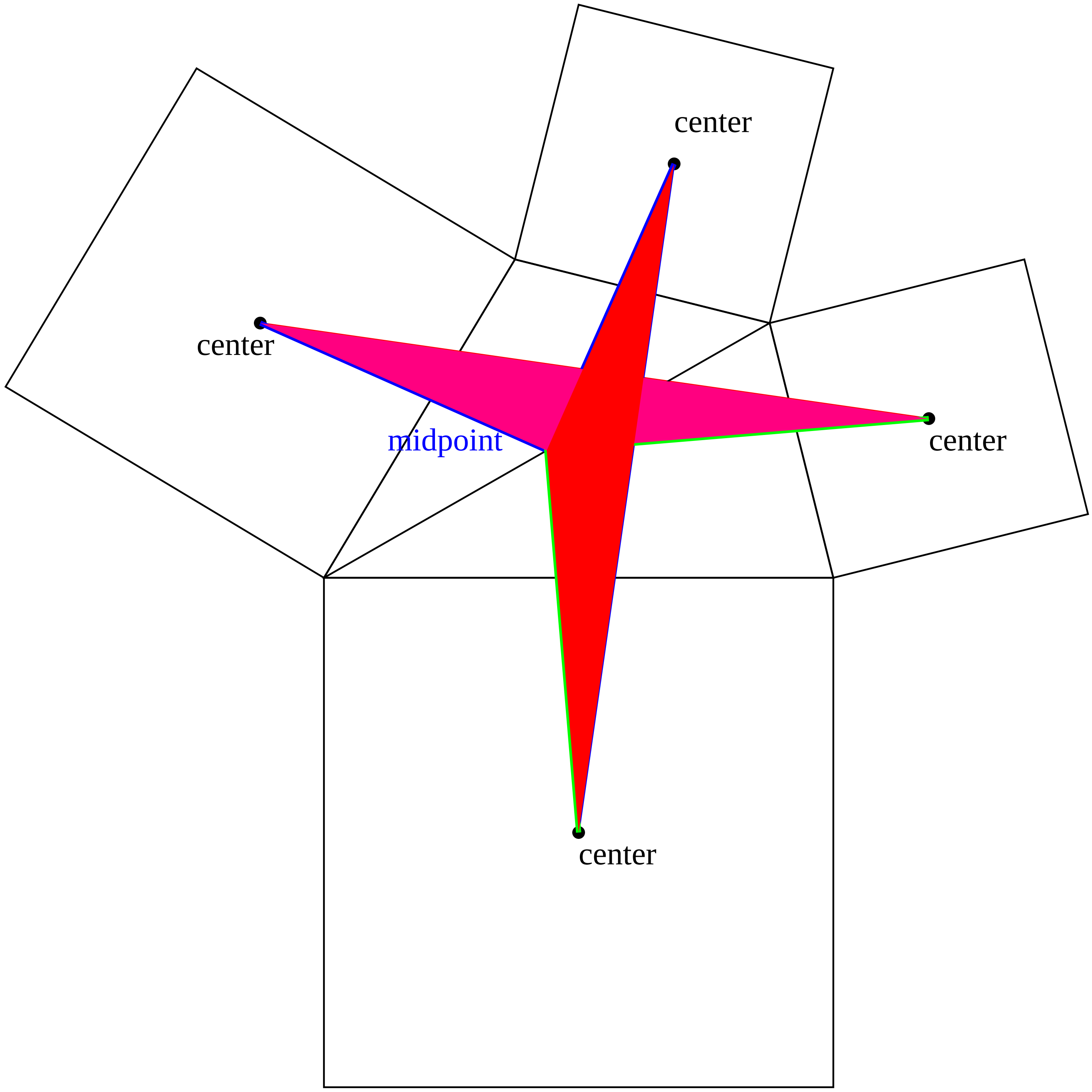
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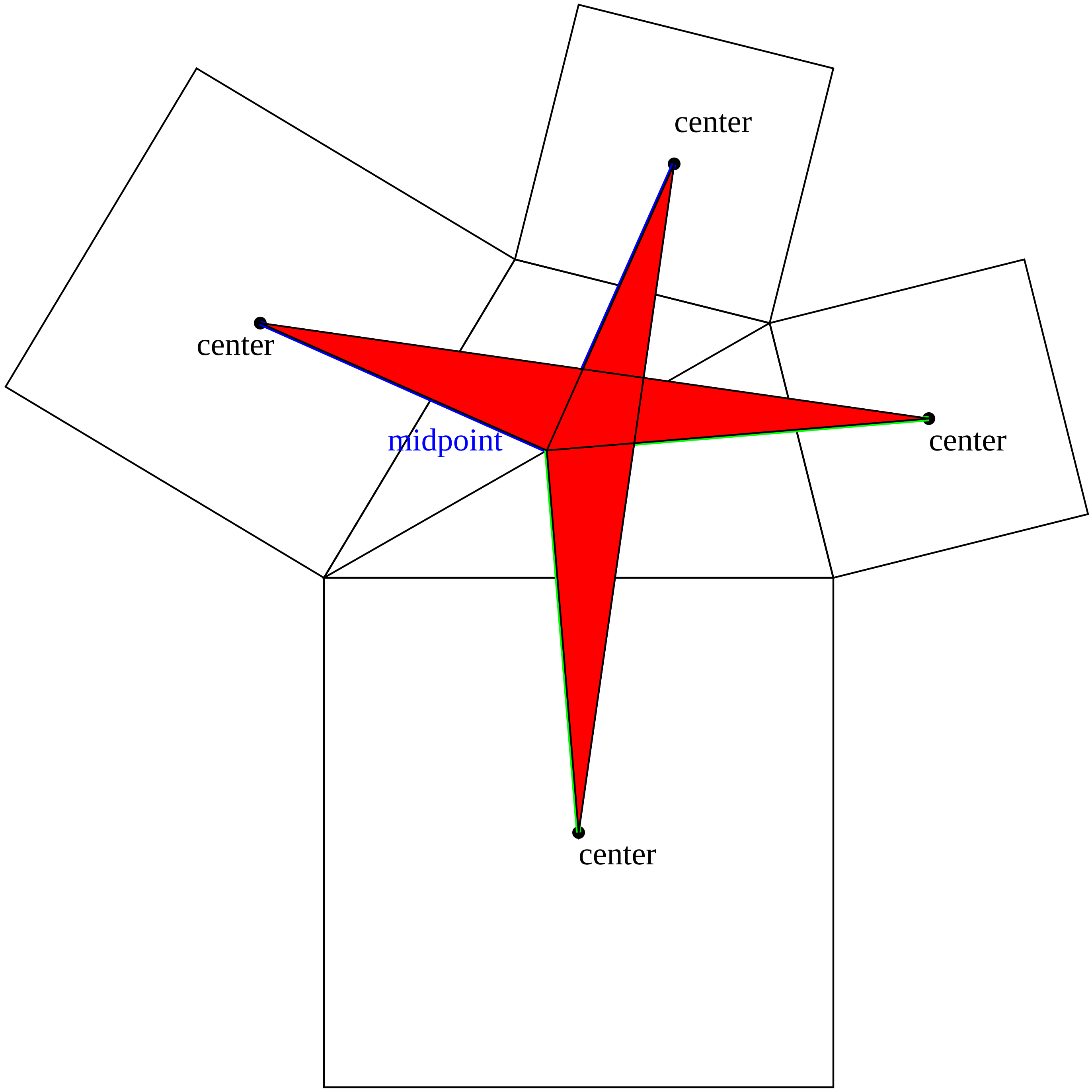

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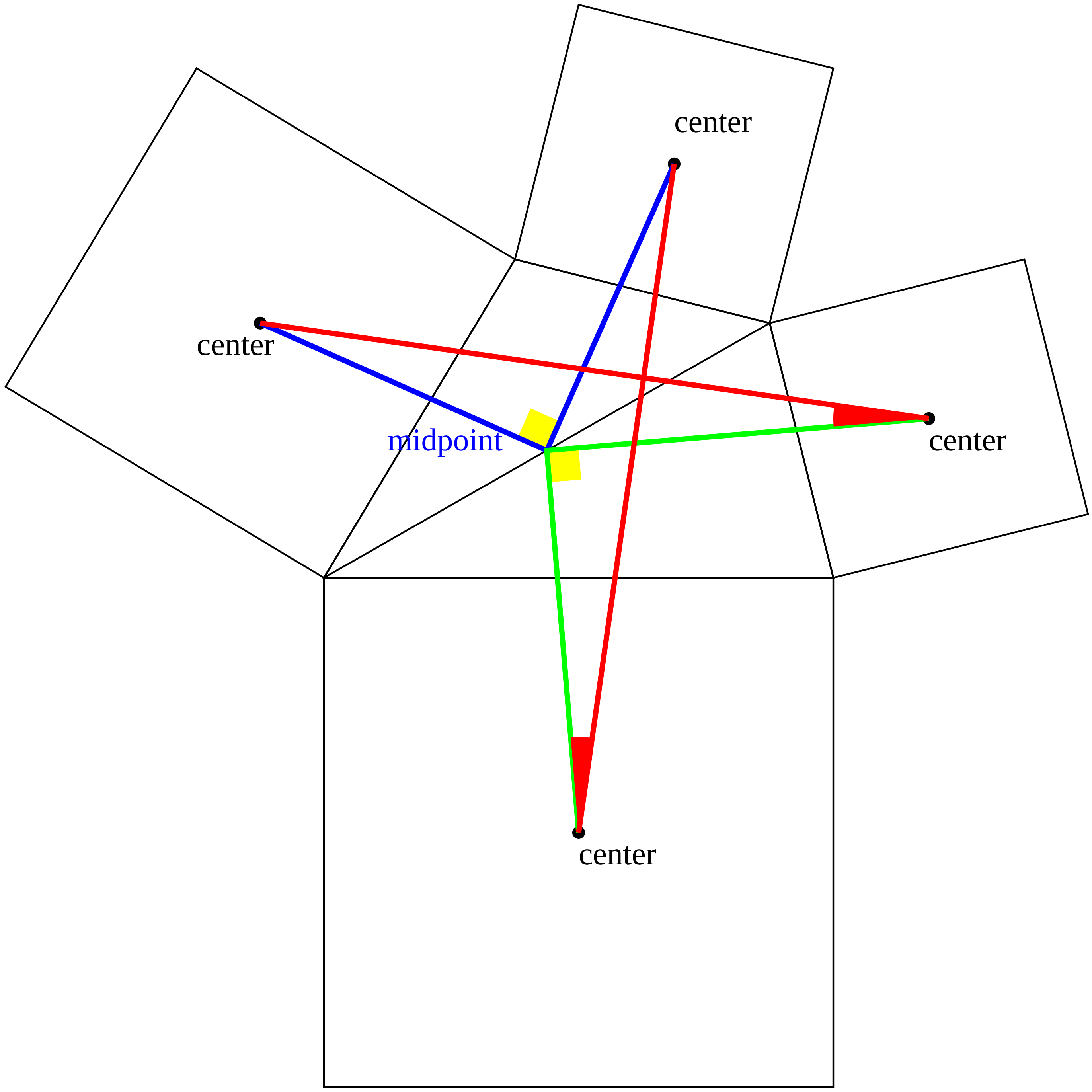
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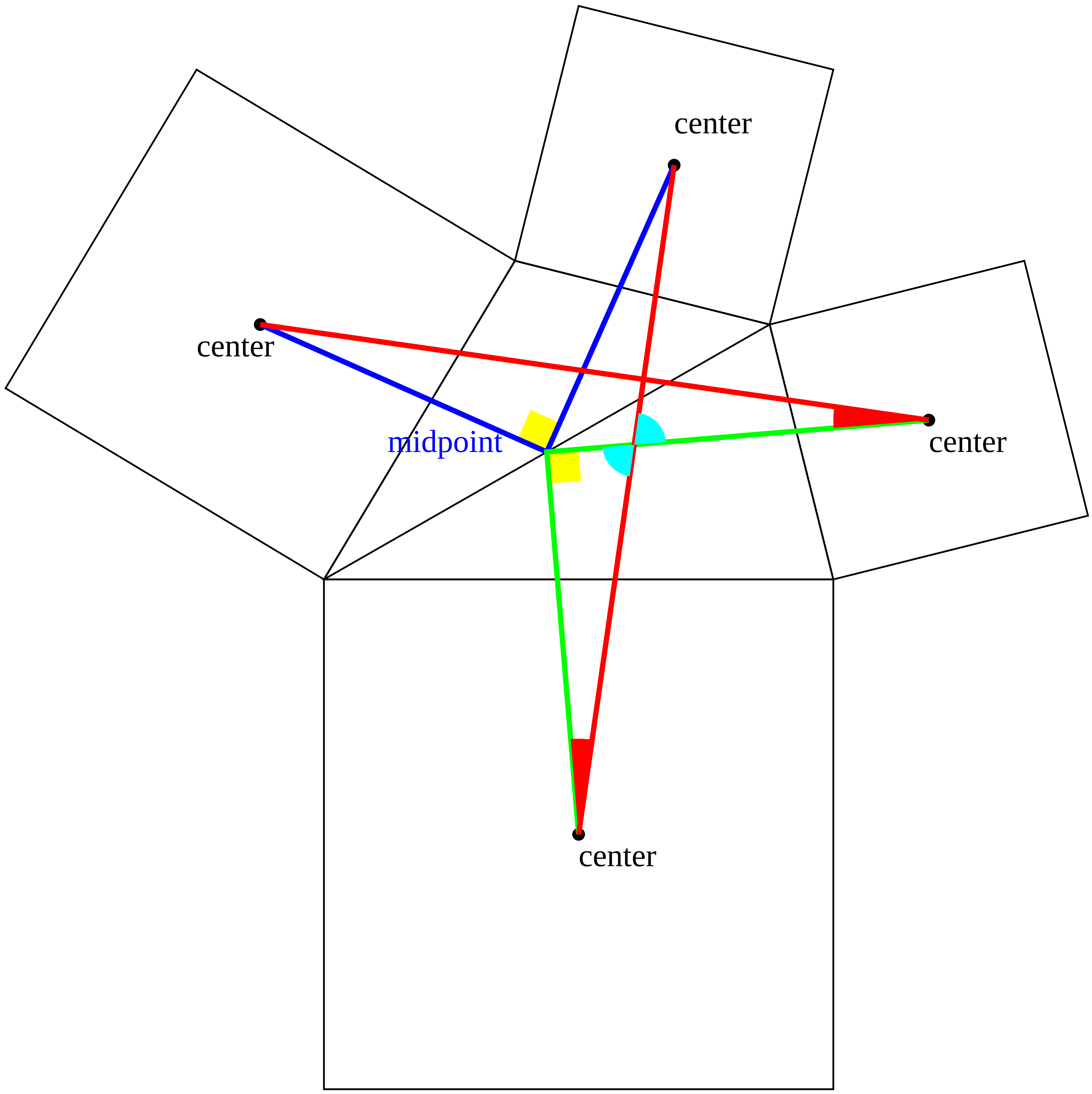
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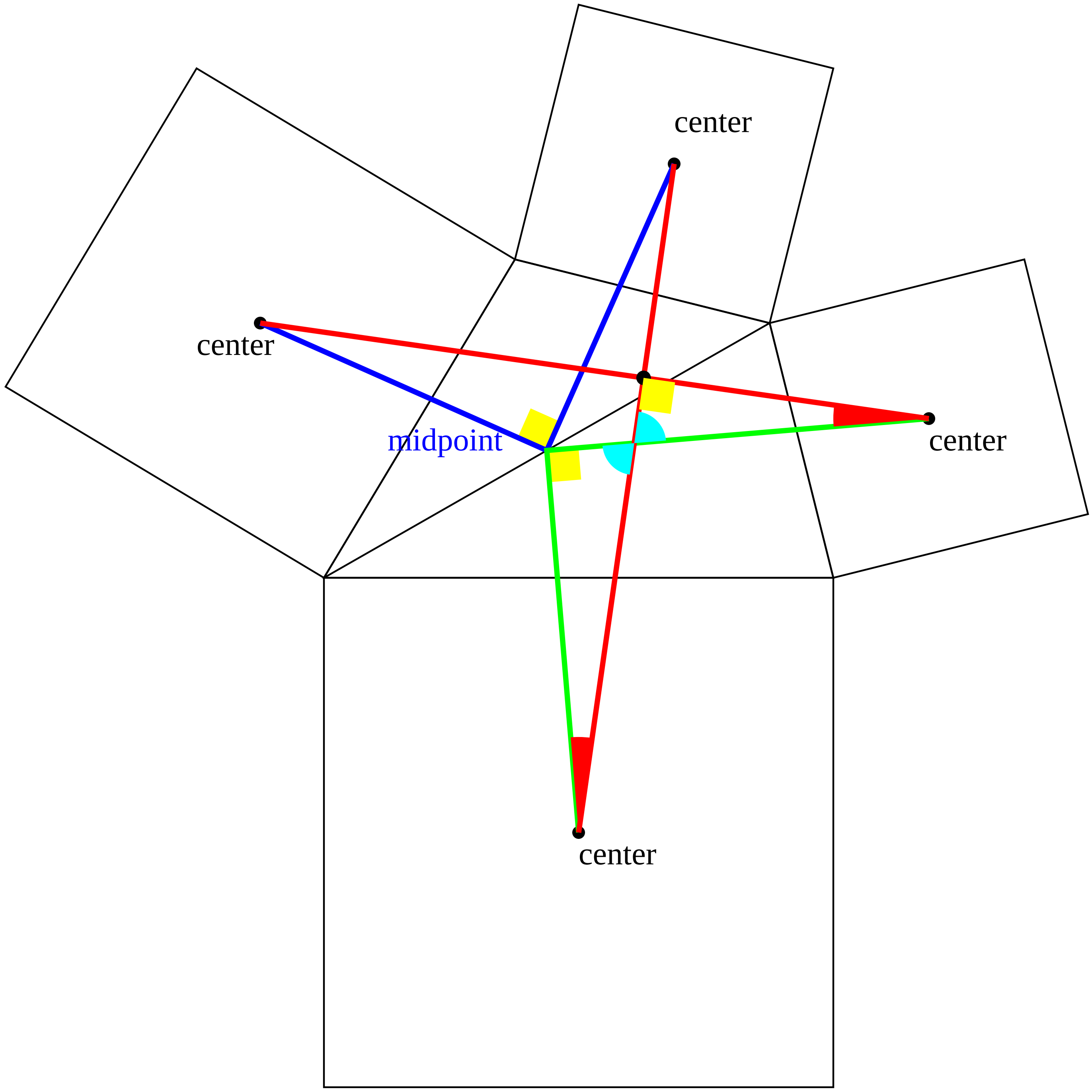
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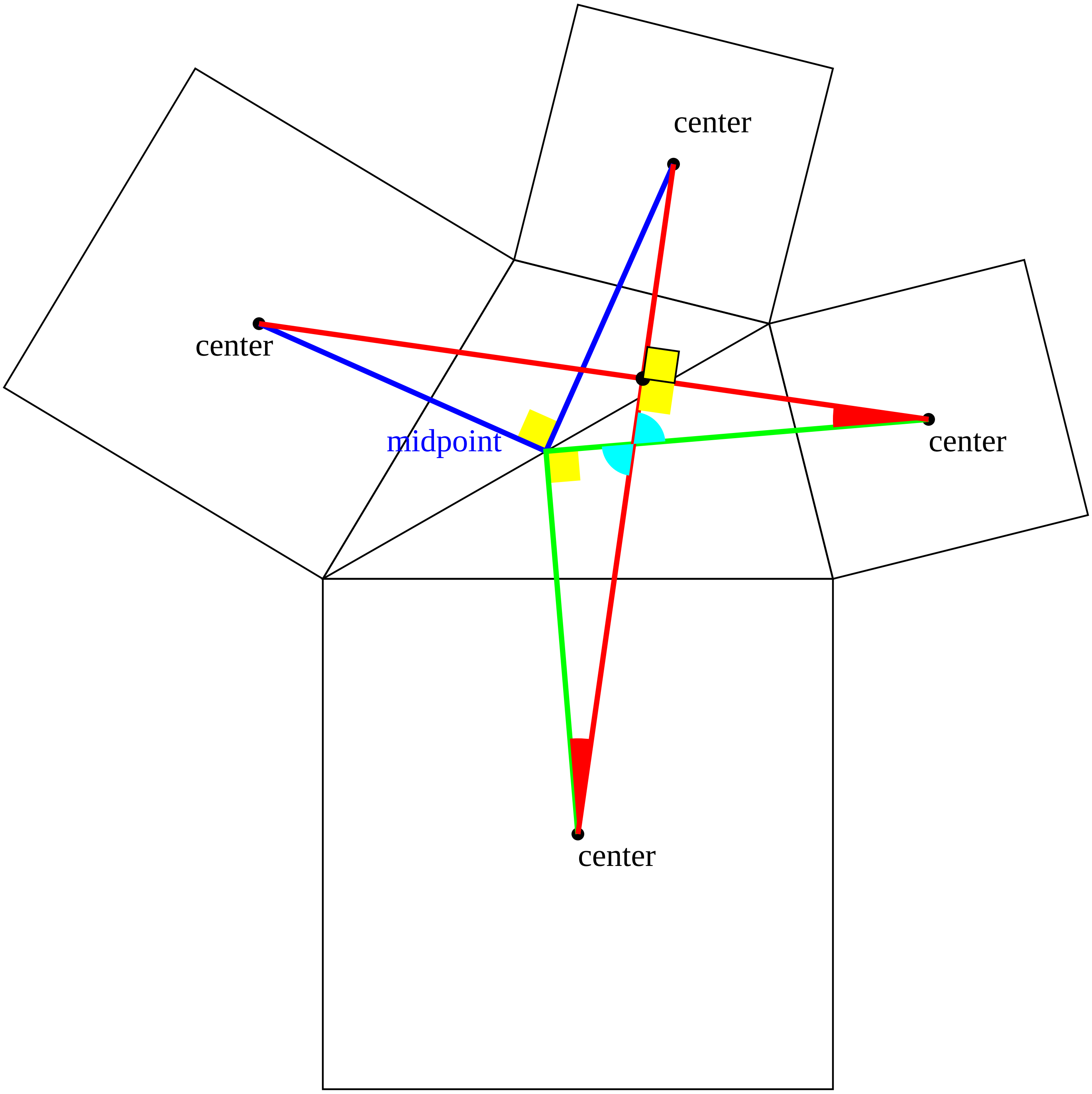
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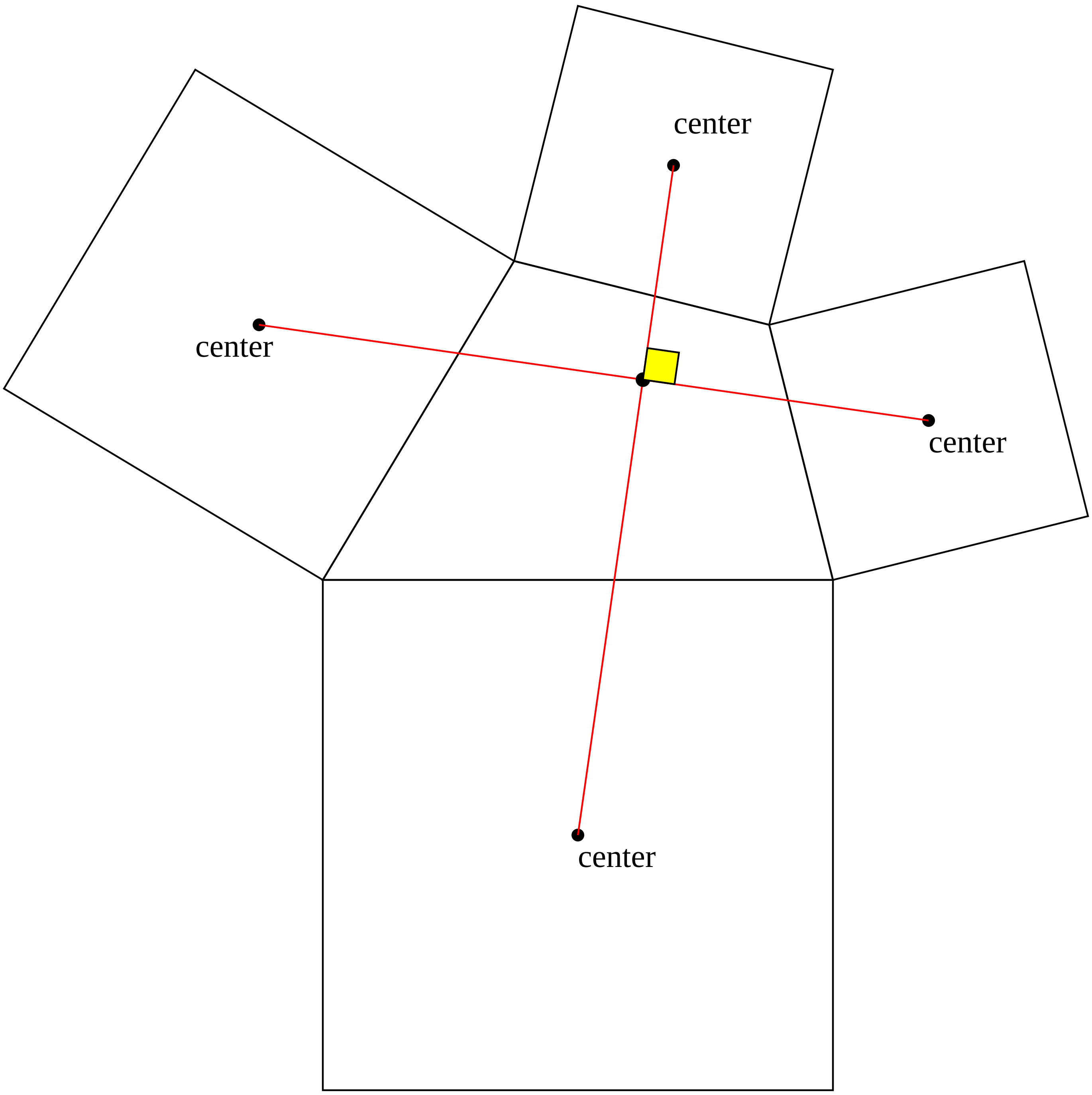
Van Aubel’s Theorem

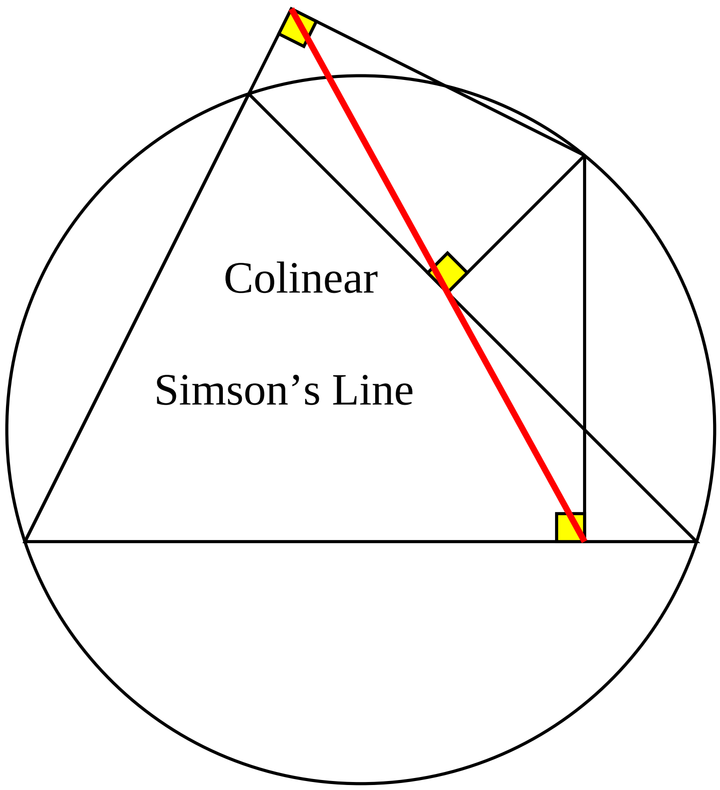
Q.E.D.



Simson’s Line Theoerm

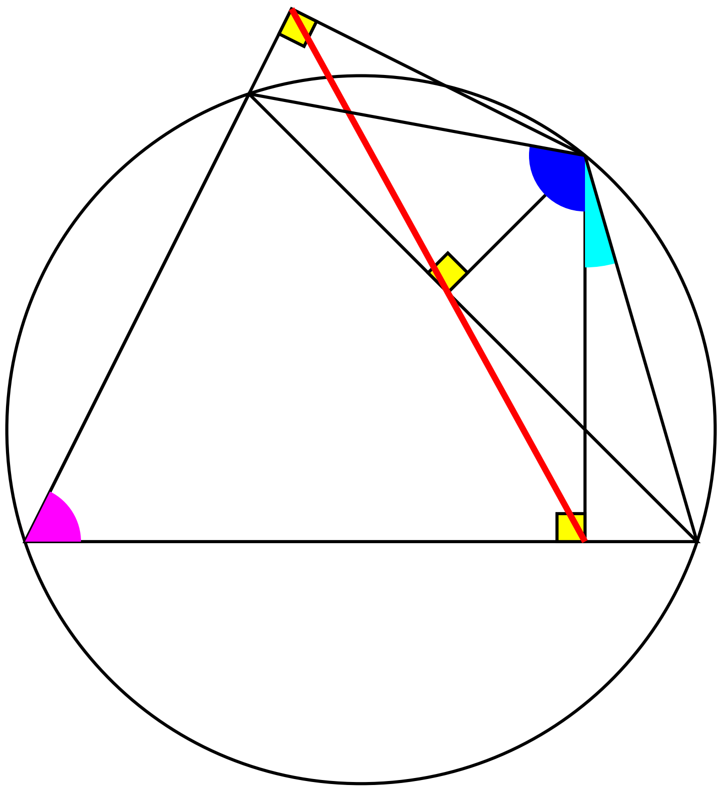
Simson’s Line Theoerm

Prove the following Colinear Simson’s Line



Simson's Line Theoerm

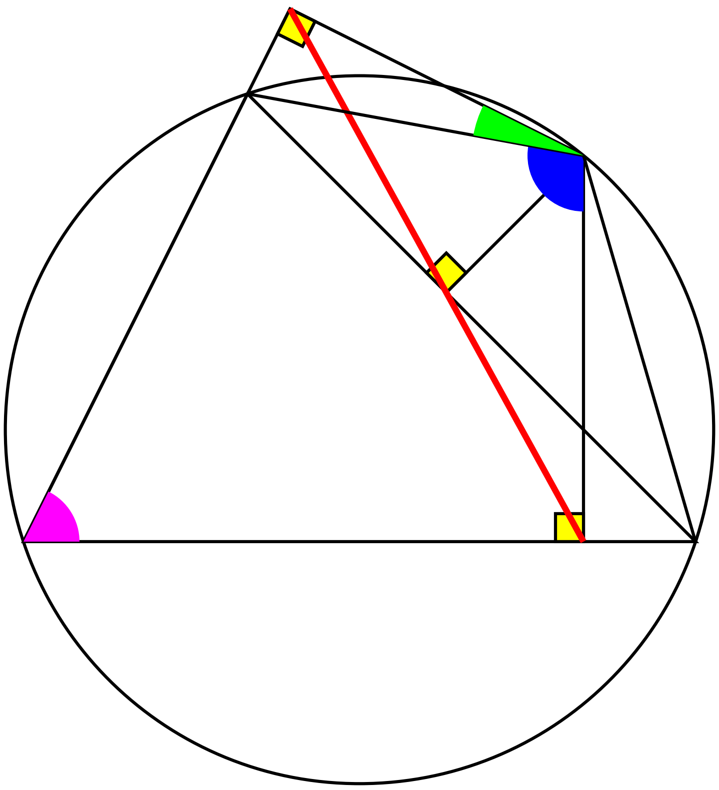
These 3 angles add up to 180 (Reason: cyclic)

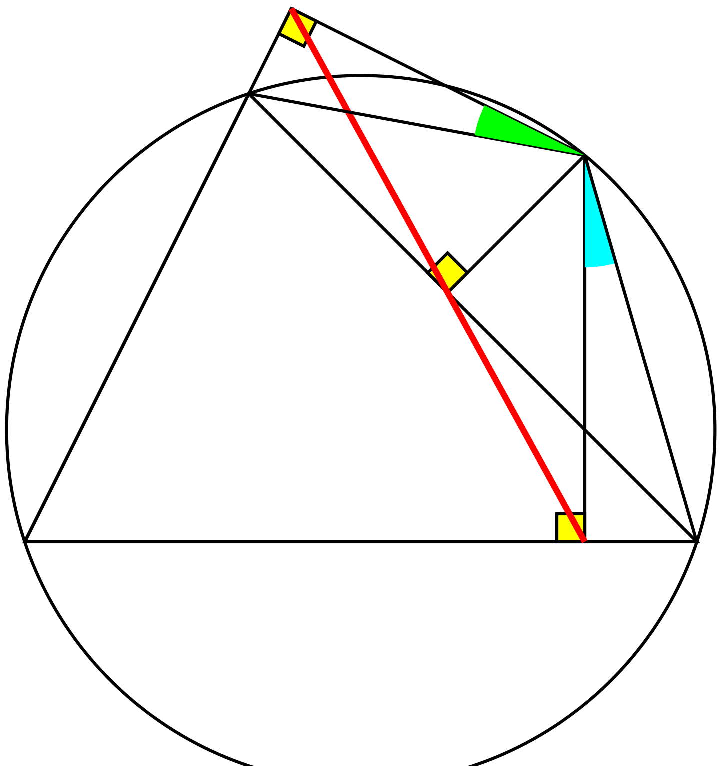


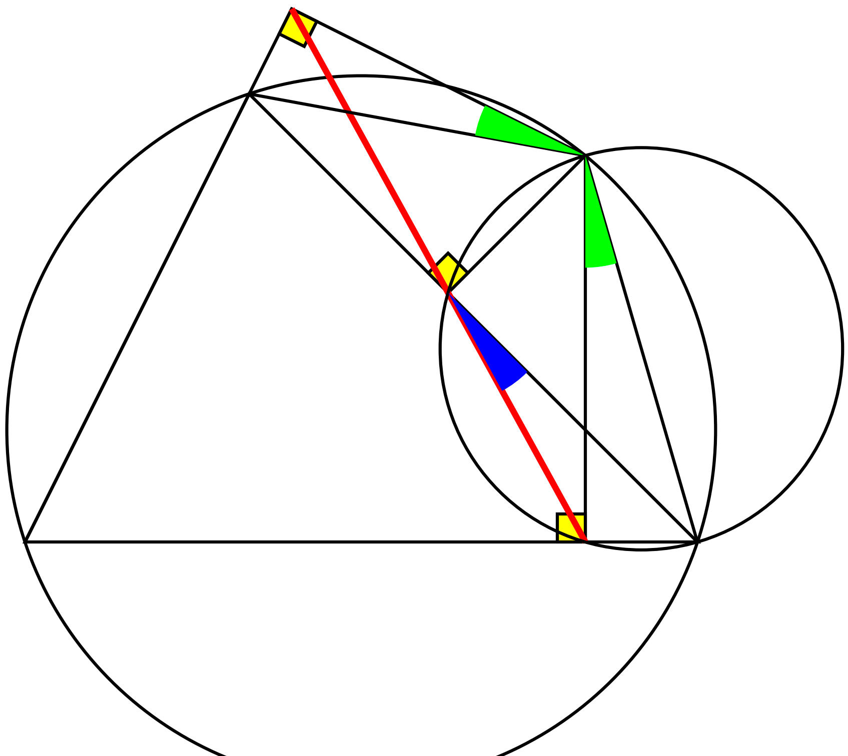
Simson’s Line Theoerm

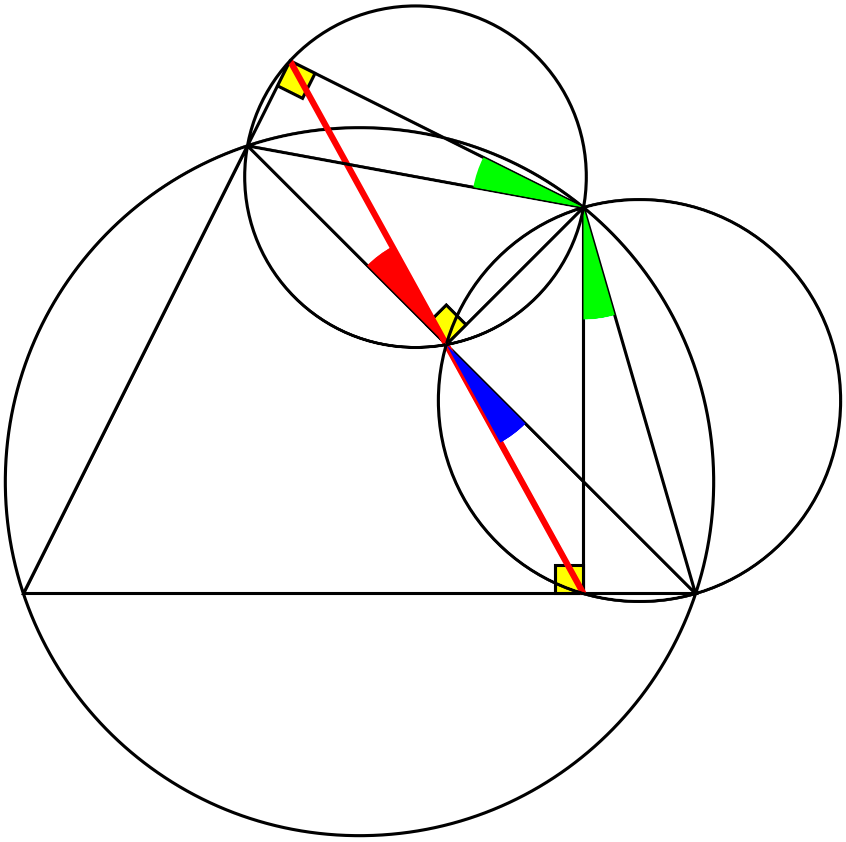
These 3 angles ALSO add up to 180

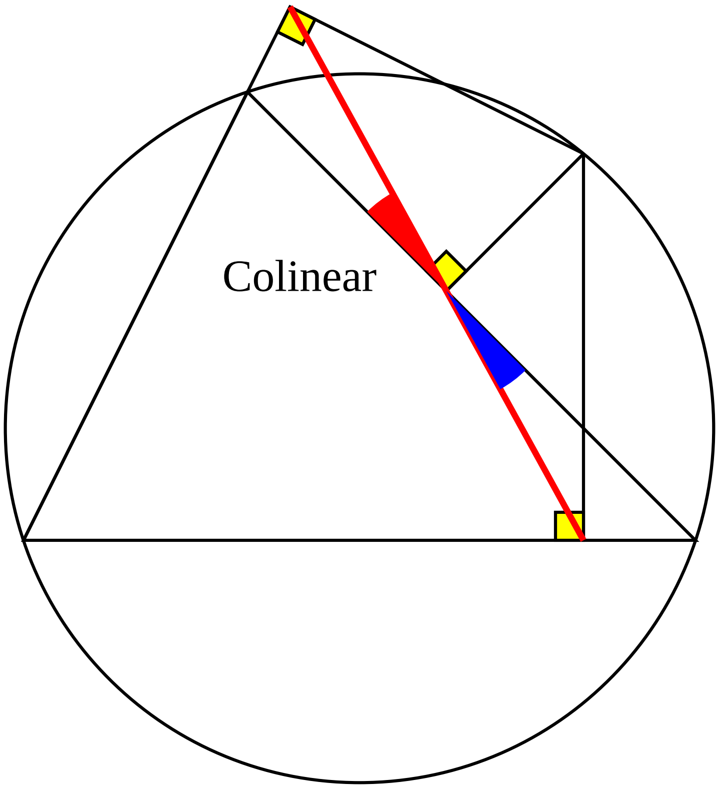
(Reason: Angle sums in quadrilateral (360) - TWO right angles = 180)










Colinear

Simson’s Line Theoerm

Q.E.D.