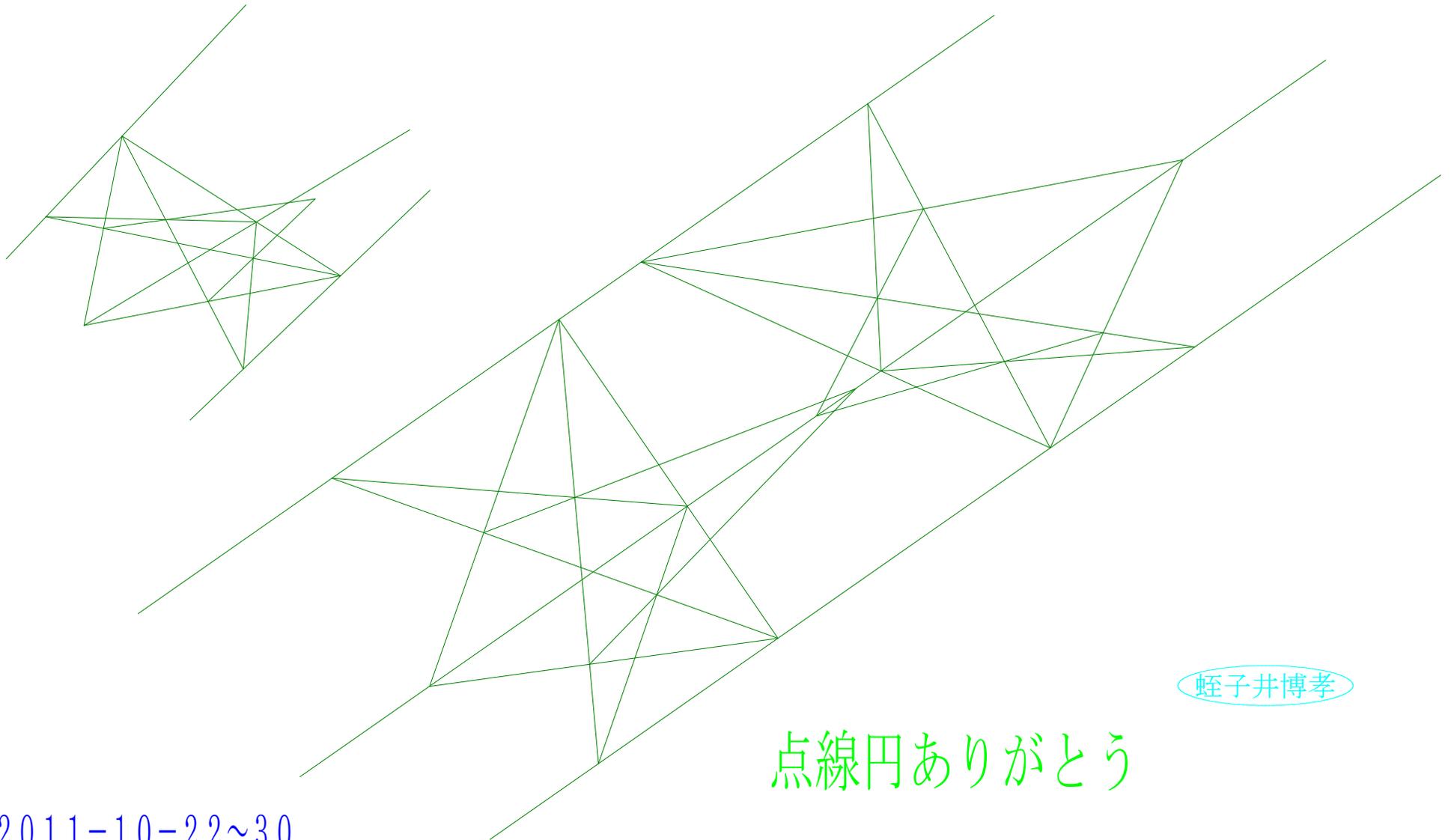


第七回点線円幾何学(学習)展示会

3平行線の定理 基礎の基礎を求めて HI-TENJI-1



蛭子井博孝

点線円ありがとう

2011-10-22~30

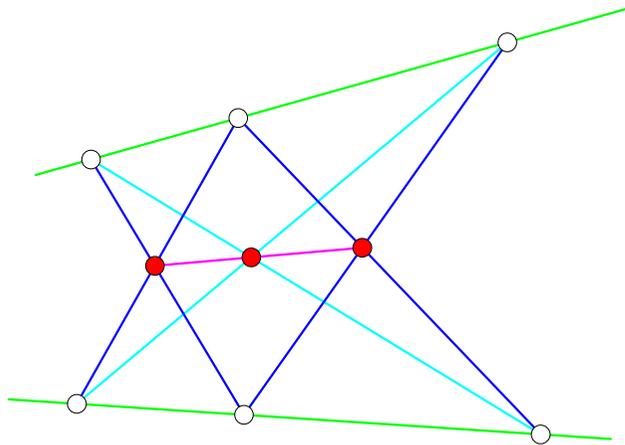
基礎 射影幾何 と 非射影幾何？(ヘキサゴンの定理)

はじめに

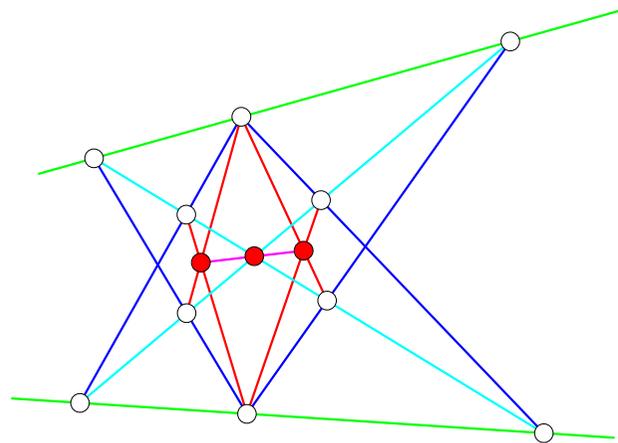
古典射影幾何 パップスの定理と系

日本数学会2011 信州大

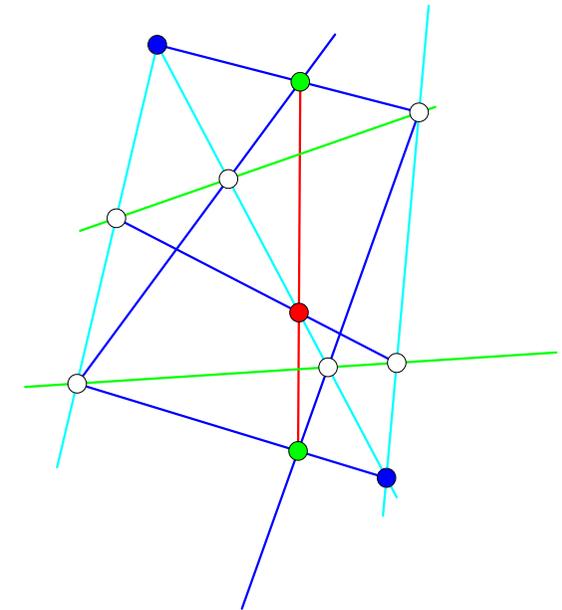
11本線の定理



Pr. 1-1



Pr. 1-2



Pr. 1-a

条件：二直線上に各3点

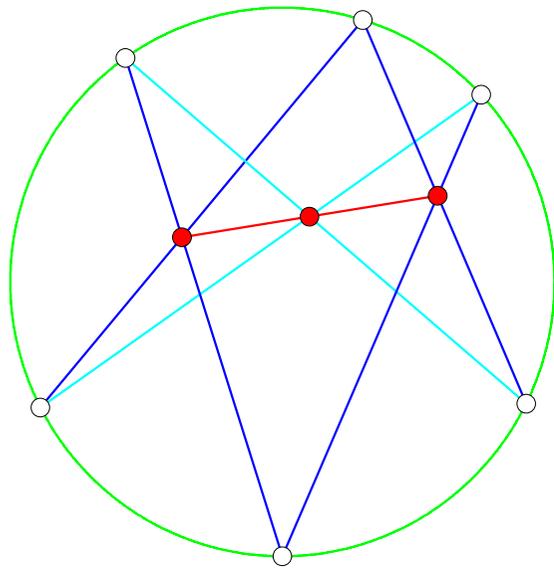
蛭子井博孝

基礎 射影幾何 と 非射影幾何？ (ヘキサゴンの定理)

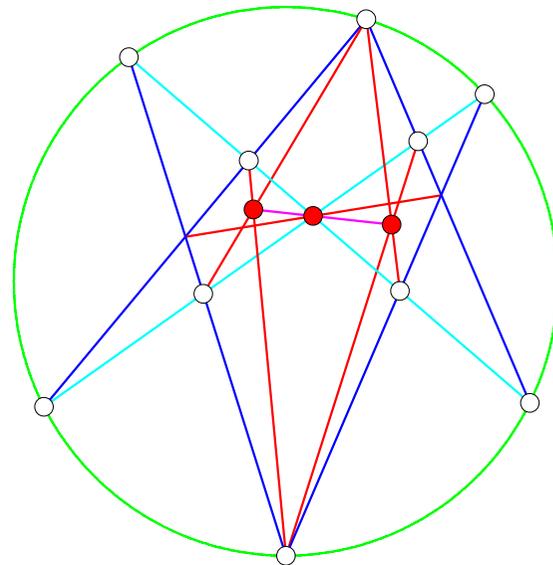
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2。 古典射影幾何 パスカルの定理と系

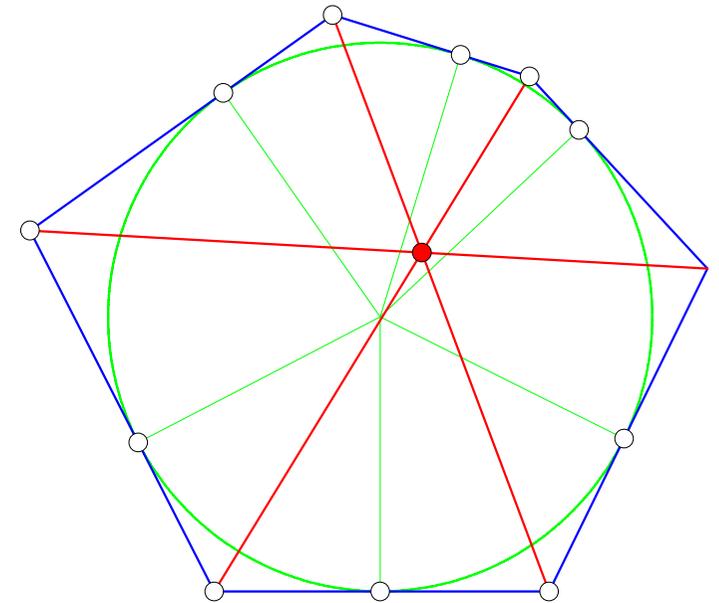
ブリアンションの定理



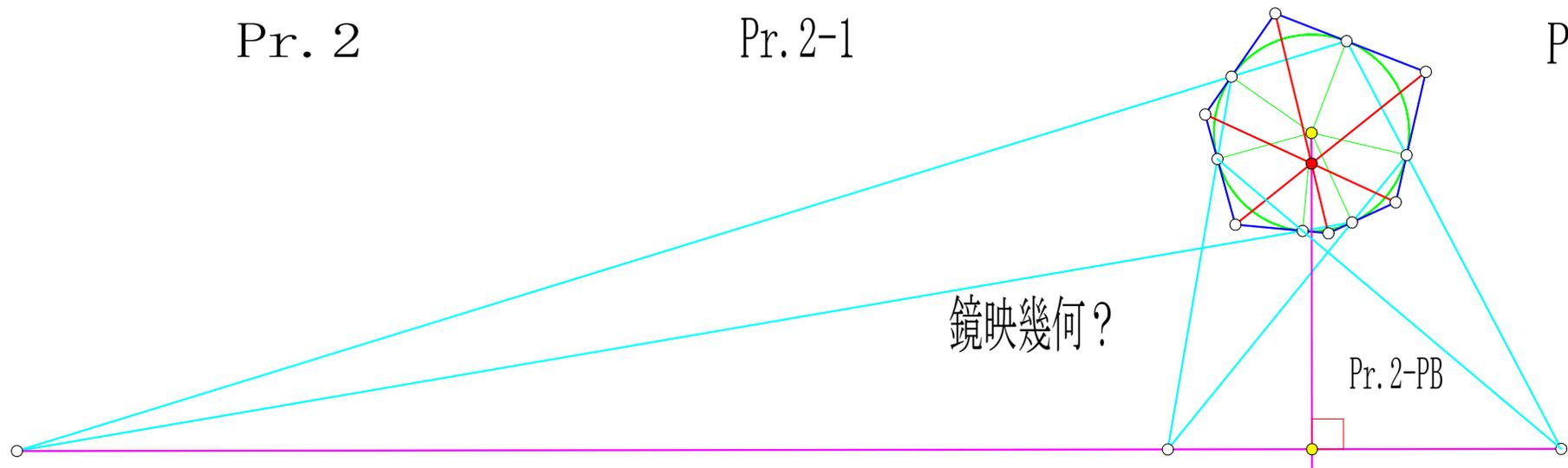
Pr. 2



Pr. 2-1



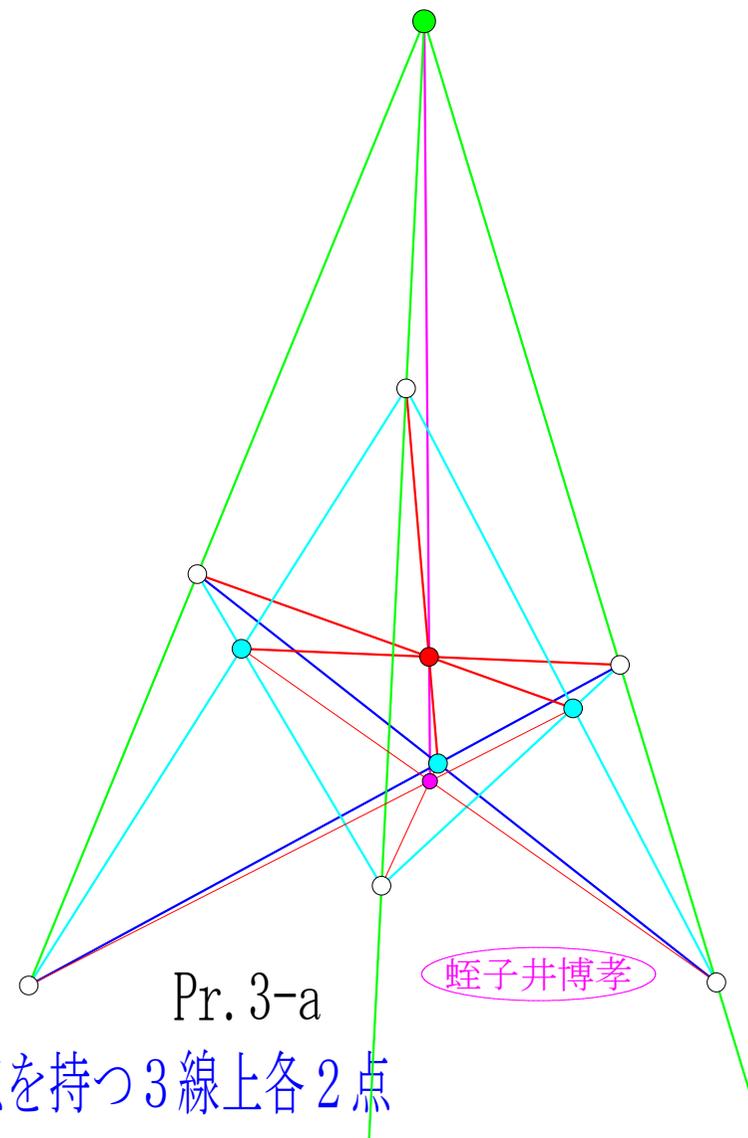
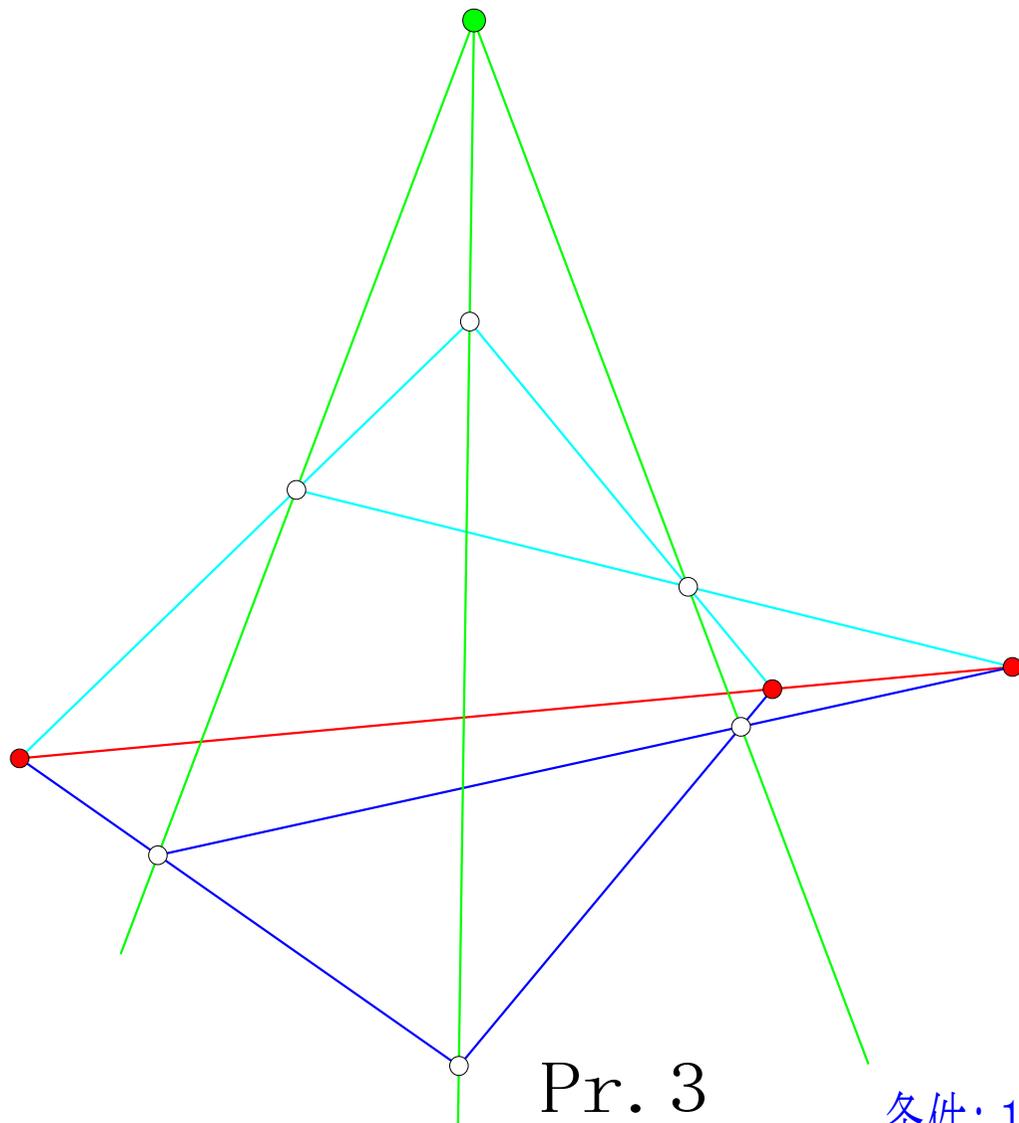
Pr. 2-b



基礎 射影幾何 と 非射影幾何？(ヘキサゴンの定理)

3 デザルグの定理i

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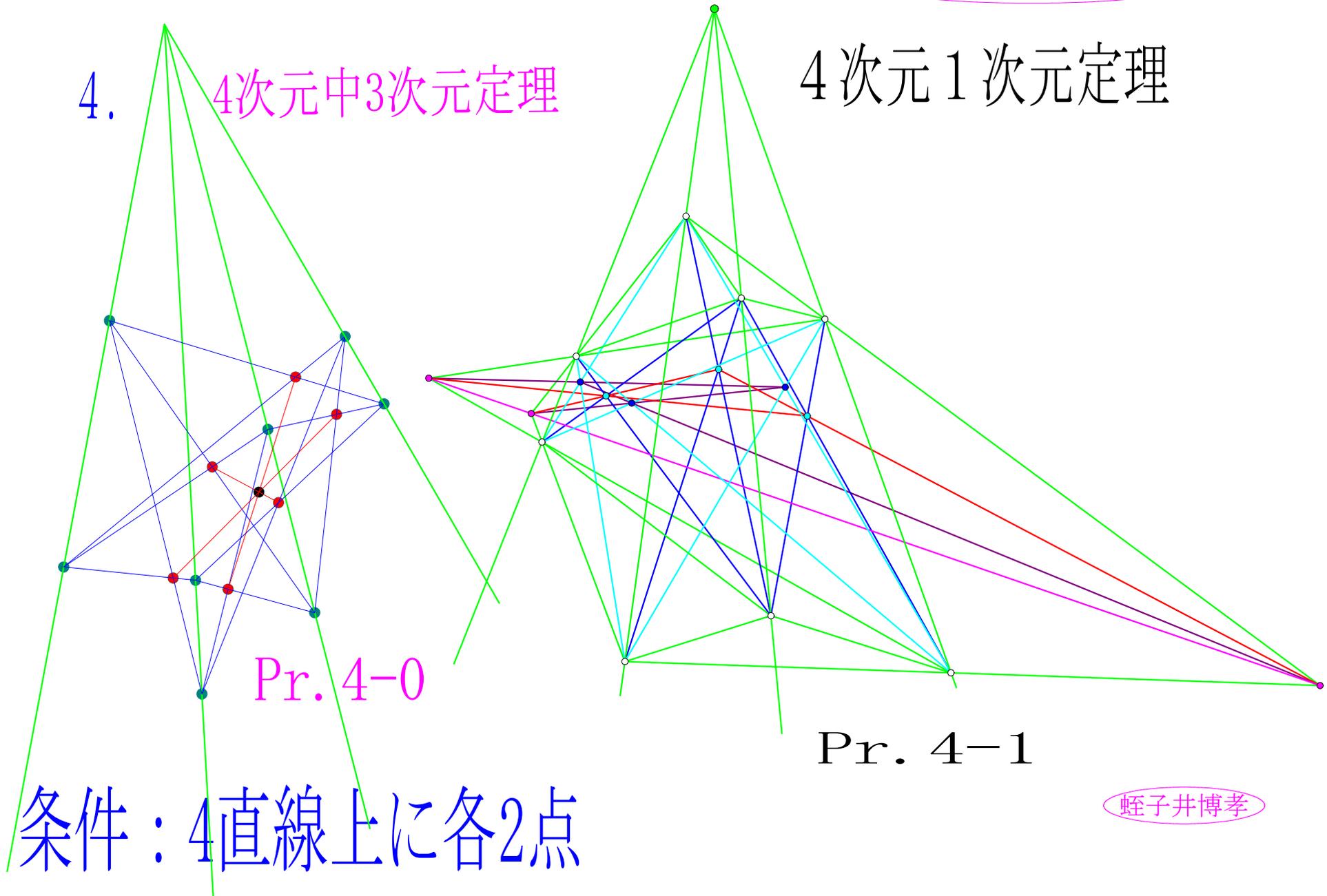
条件: 1交点を持つ3線上各2点

基礎 射影幾何 と 非射影幾何？(ヘキサゴンの定理)

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4. 4次元中3次元定理

4次元1次元定理



Pr. 4-0

Pr. 4-1

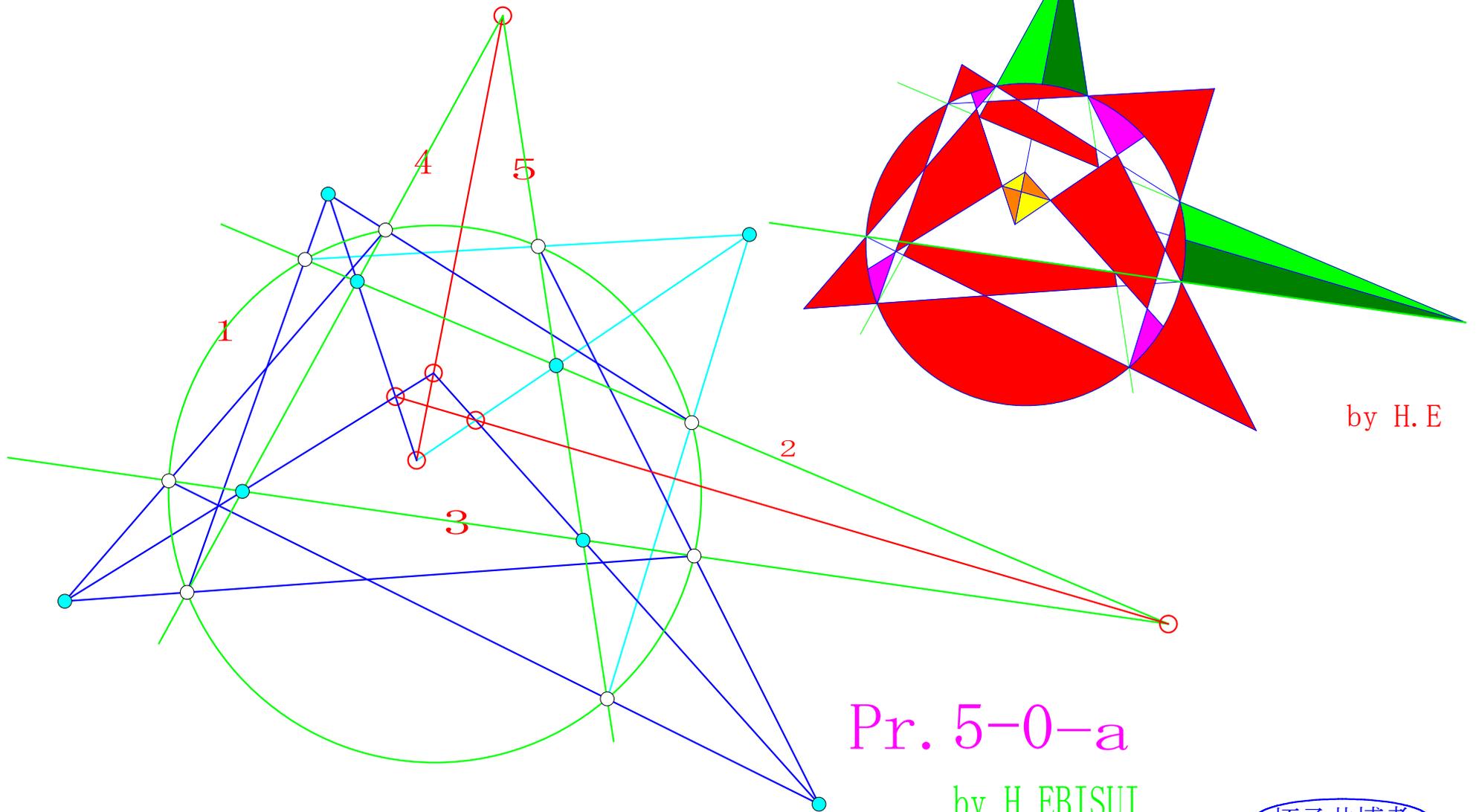
条件：4直線上に各2点

蛭子井博孝

基礎 射影幾何 と 非射影幾何？(ヘキサゴンの定理)

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5. バラの定理



by H. E

Pr. 5-0-a

by H. EBISUI

蛭子井博孝

条件：4直線と円

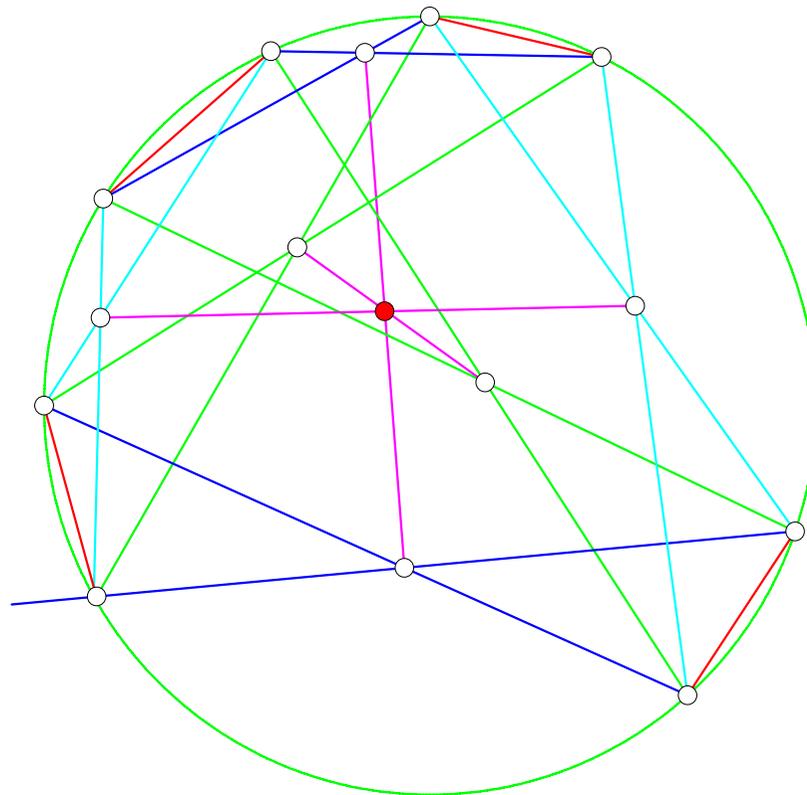
第7回点線円幾何学(学習)展示会

by 蛭子井博孝

基礎 射影幾何 と 非射影幾何？(ヘキサゴンの定理)

5' 円8点 3線共点 定理(ABCDの定理)

数学会2011 信州大



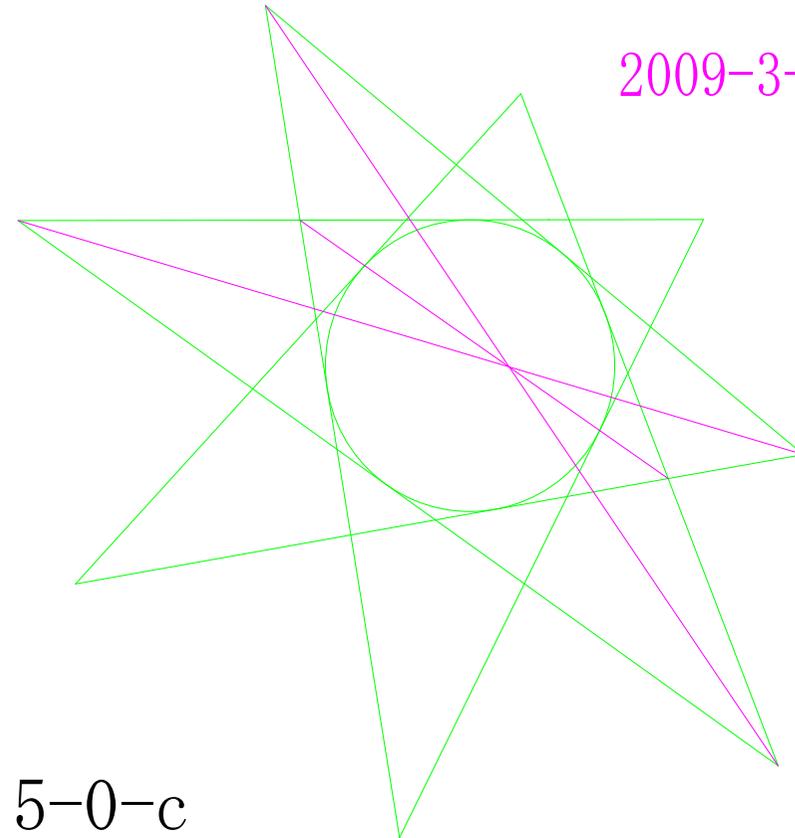
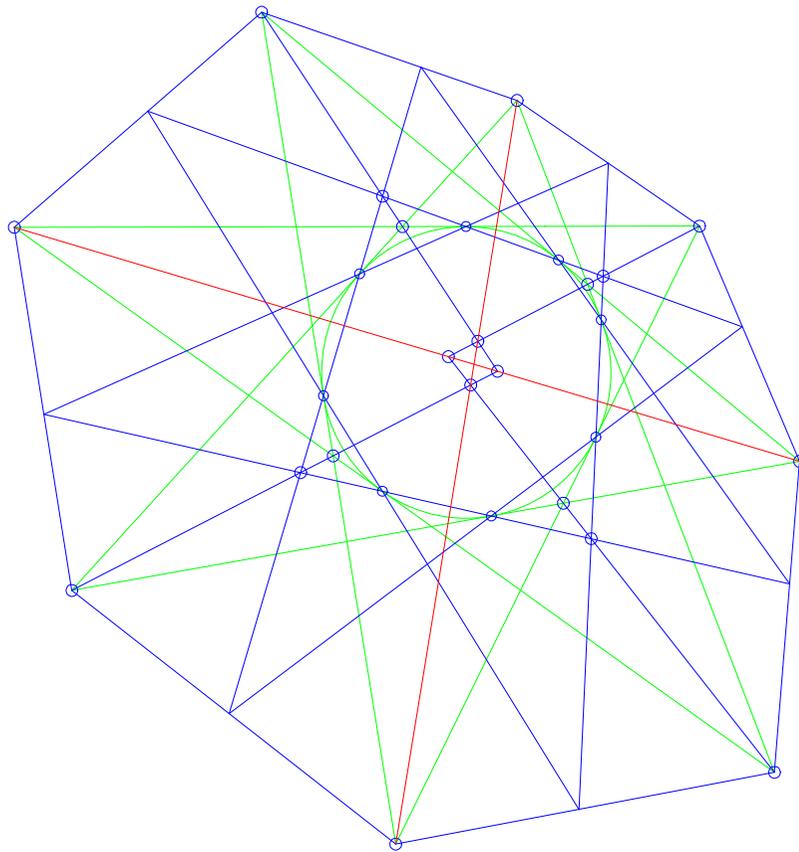
Pr. 5-0-b

蛭子井博孝

基礎 射影幾何 と 非射影幾何？(ヘキサゴンの定理)

5-2 ひまわりの定理

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2009-3-15

Pr. 5-0-c

条件:円周上の8接線

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第7回点線円幾何学(学習)展示会

by 蛭子井博孝

基礎 射影幾何 と 非射影幾何？(ヘキサゴンの定理)

6. ヘキサゴンの定理

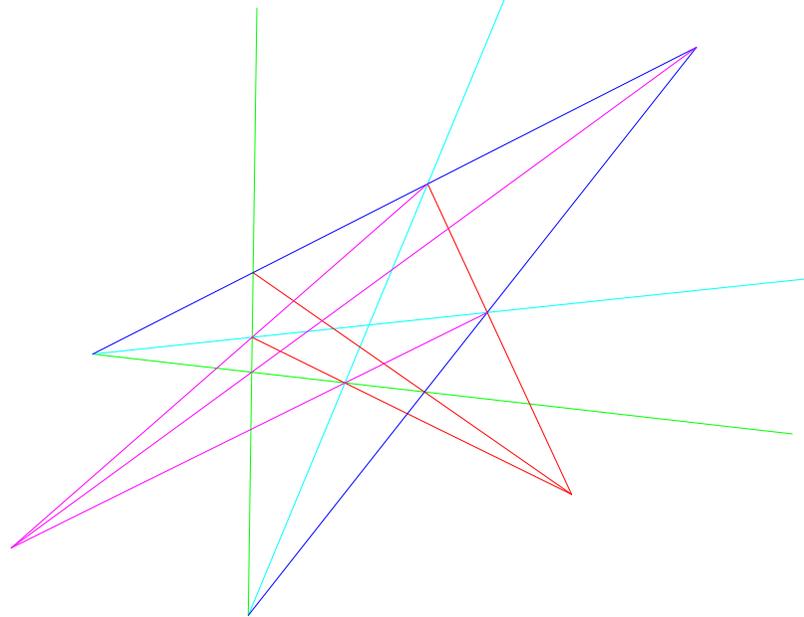
日本数学会2011 信州大

任意の6角形定理

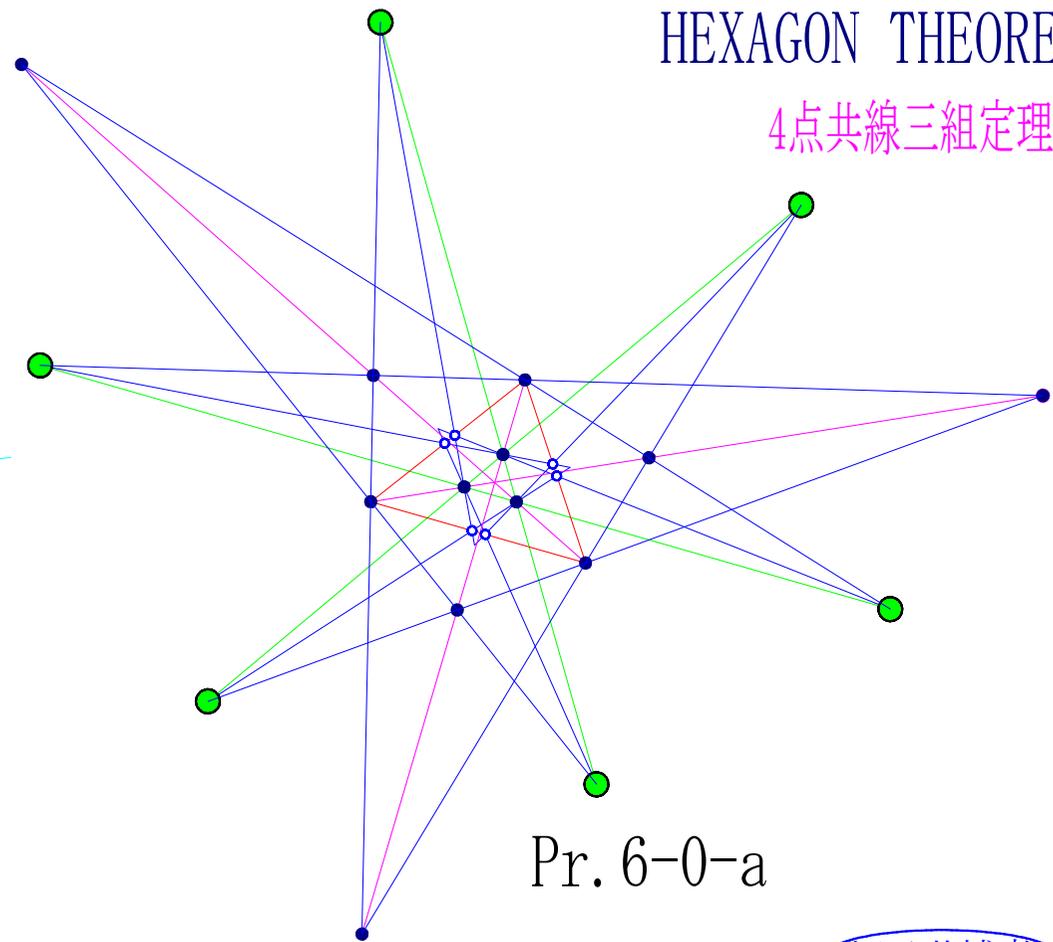
HEXAGON THEOREM

4点共線三組定理

2組の3直線の定理



GGJ- (FGJ-001)-01



Pr. 6-0-a

蛭子井博孝

条件：任意の6点

第7回点線円幾何学(学習)展示会

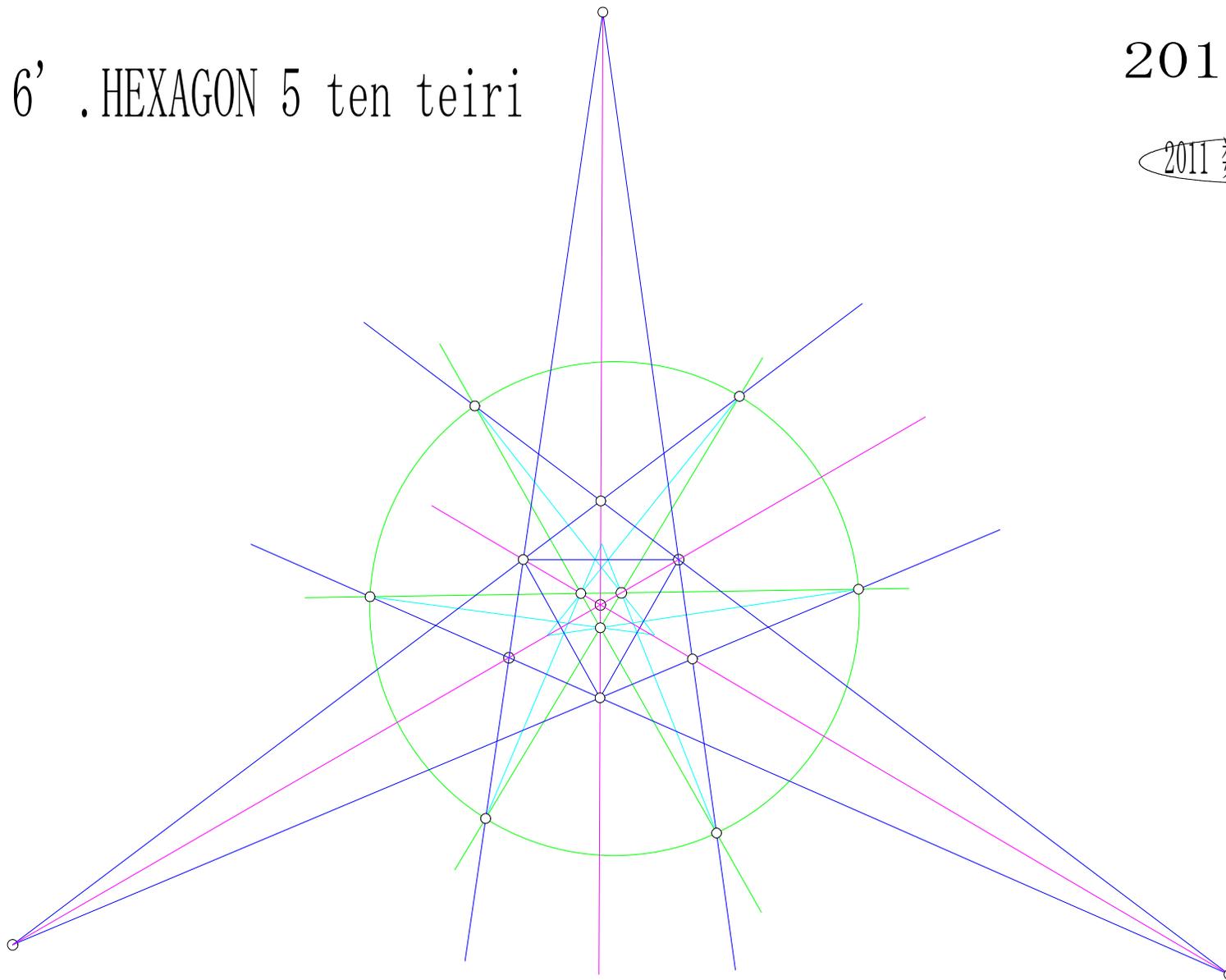
by 蛭子井博孝

基礎 射影幾何 と 非射影幾何？(ヘキサゴンの定理)

6' .HEXAGON 5 ten teiri

2011-9-6

2011 数学会 信州大



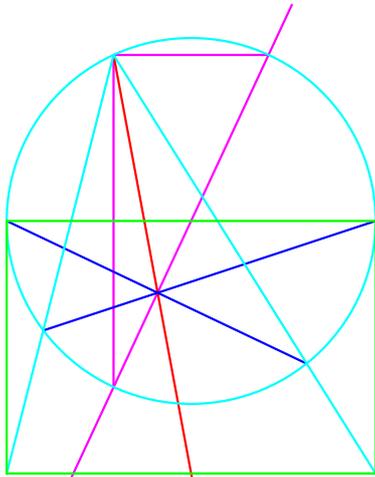
Pr. 6-0-1

蛭子井博孝

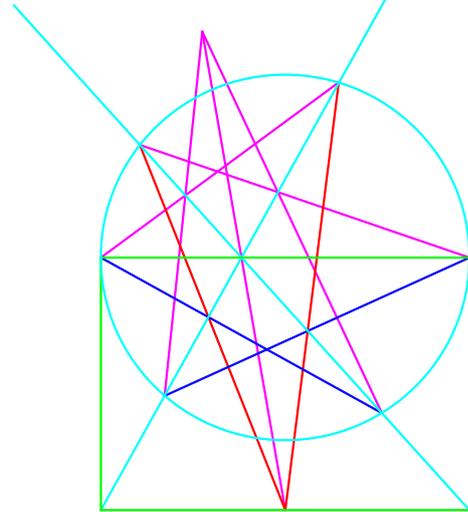
第7回点線円幾何学(学習)展示会

by 蛭子井博孝

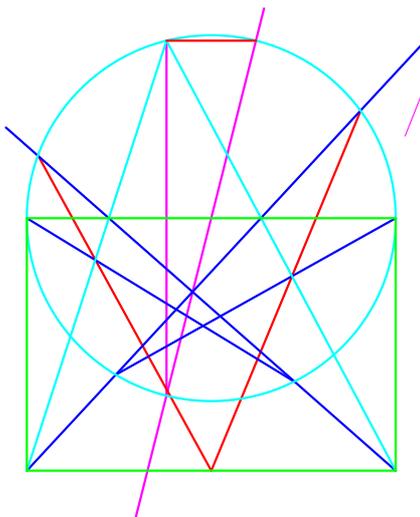
一つできたらうれしいな



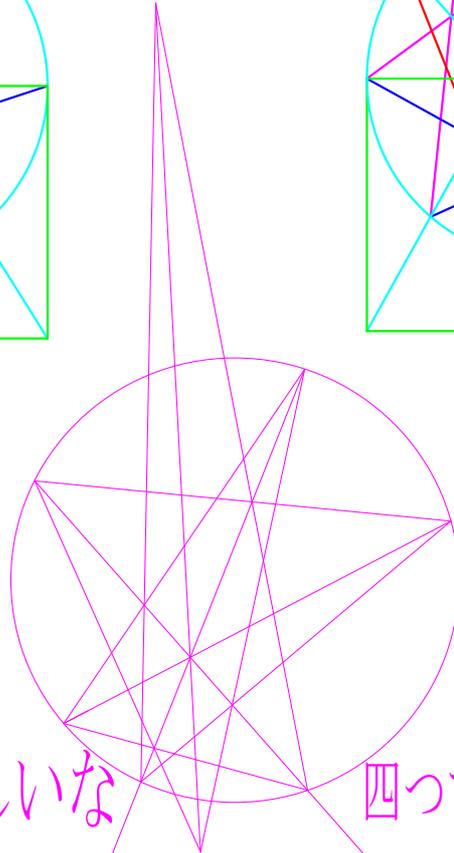
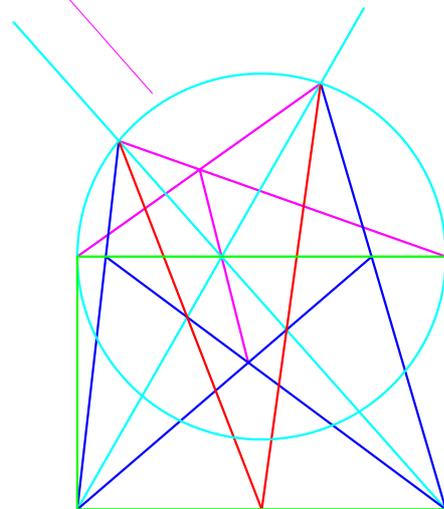
三つできたら喜びだ



二つできたら楽しいな



四つできたら幸せだ

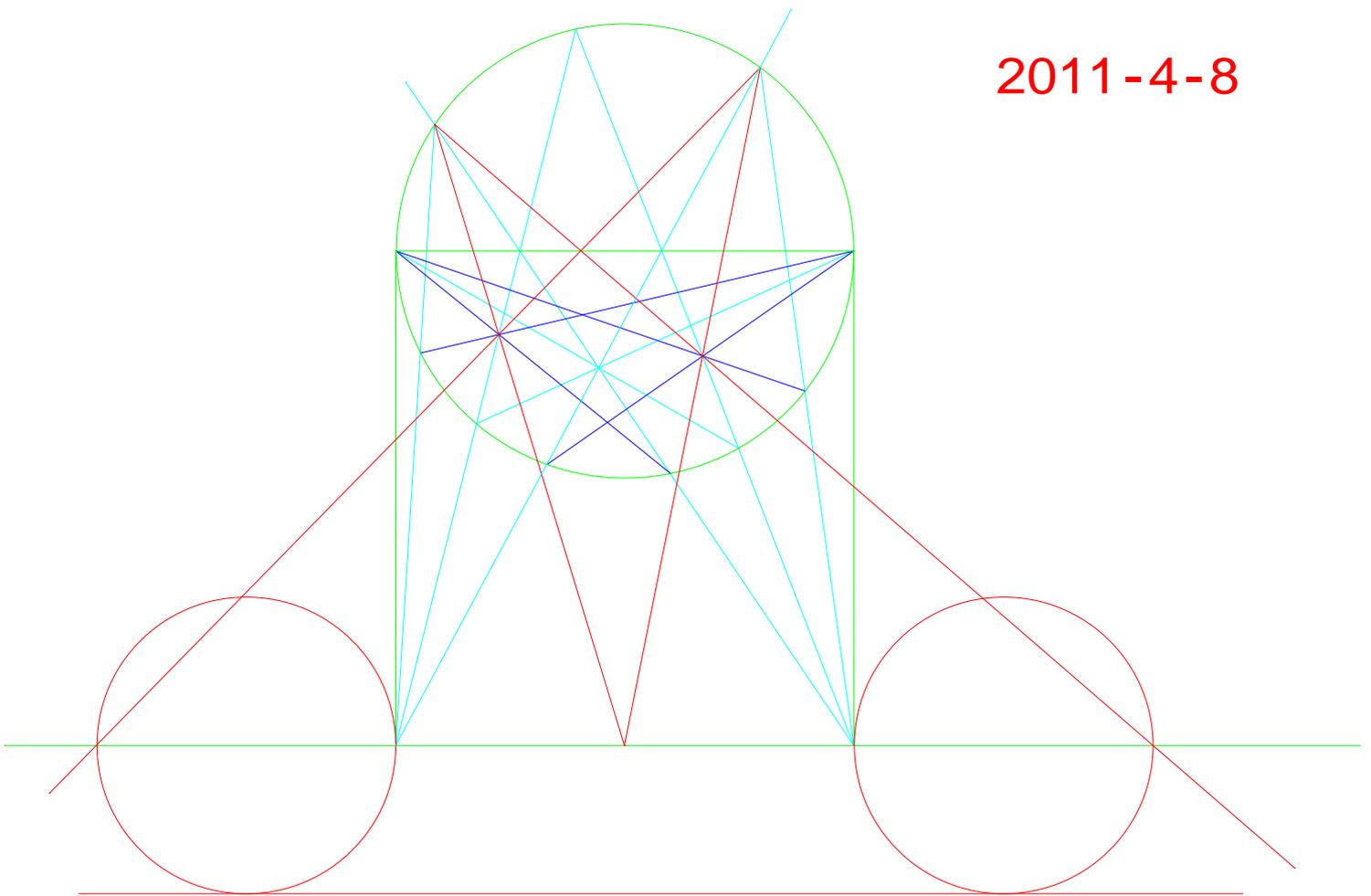


蛭子井博孝

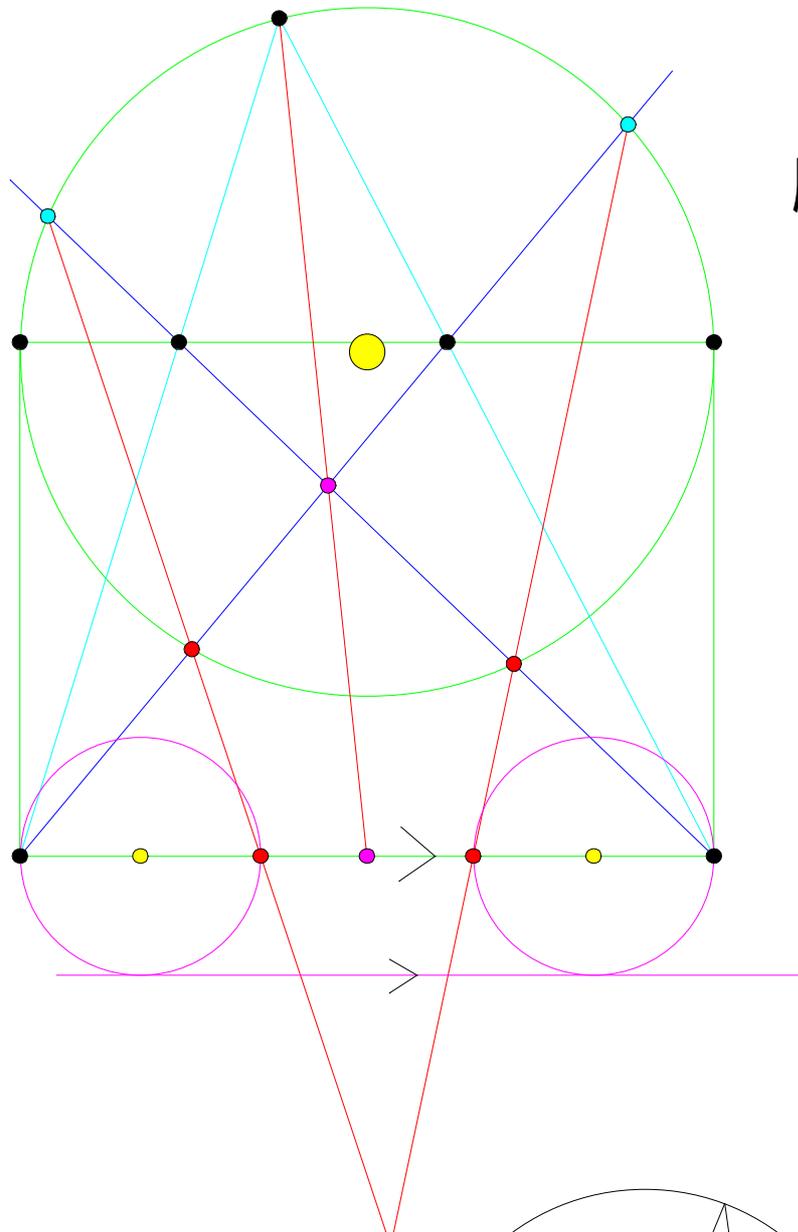
CUP no kyoukun 人生真ん中を歩け

人生生きている今が真ん中

2011-4-8

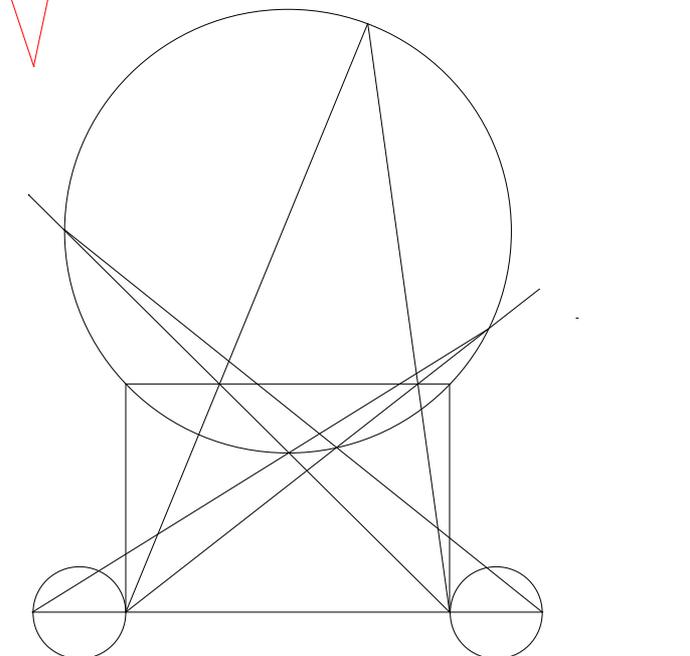


蛭子井博孝60



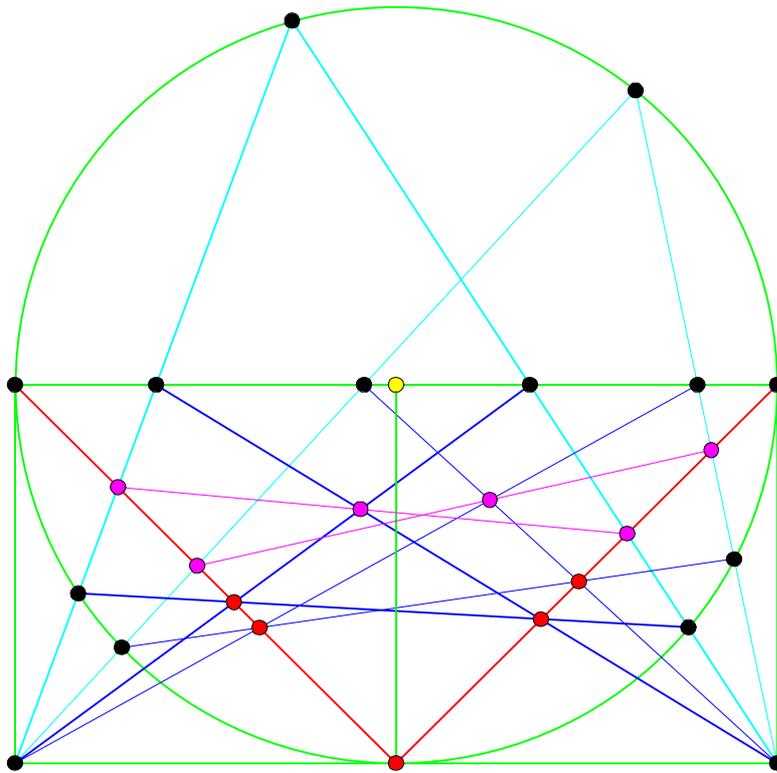
原子炉の定理

2011-3-25



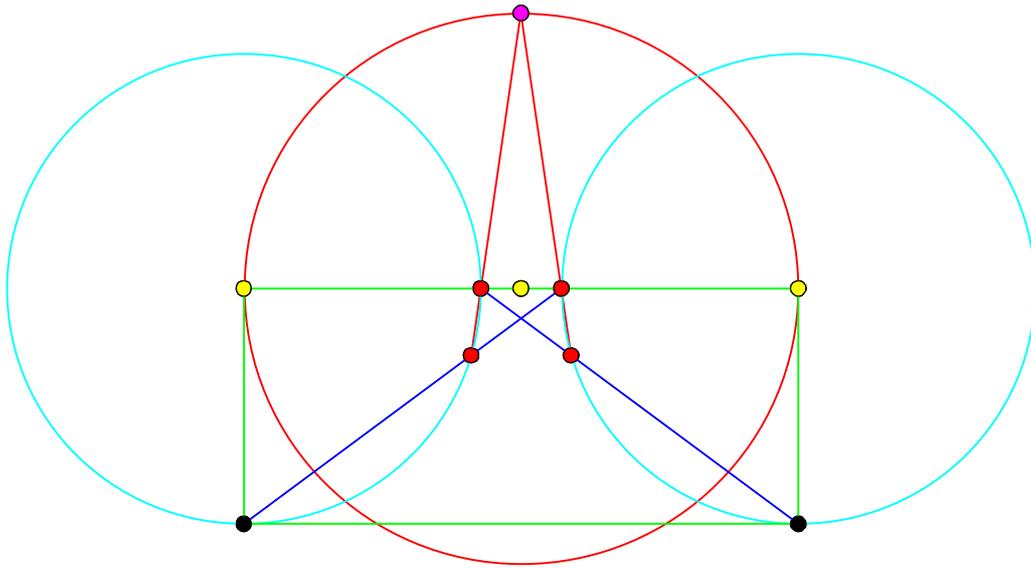
2011-3-29

被災支援の定理



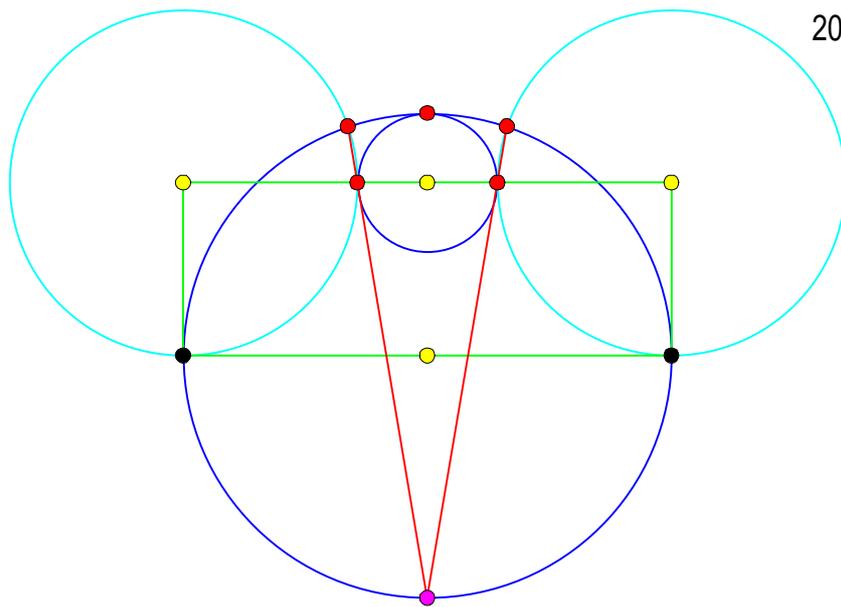
蛭子井博孝

2011-4-19



ありがとう幾何学好きの人 この一年 60才よさようなら

2011-4-26

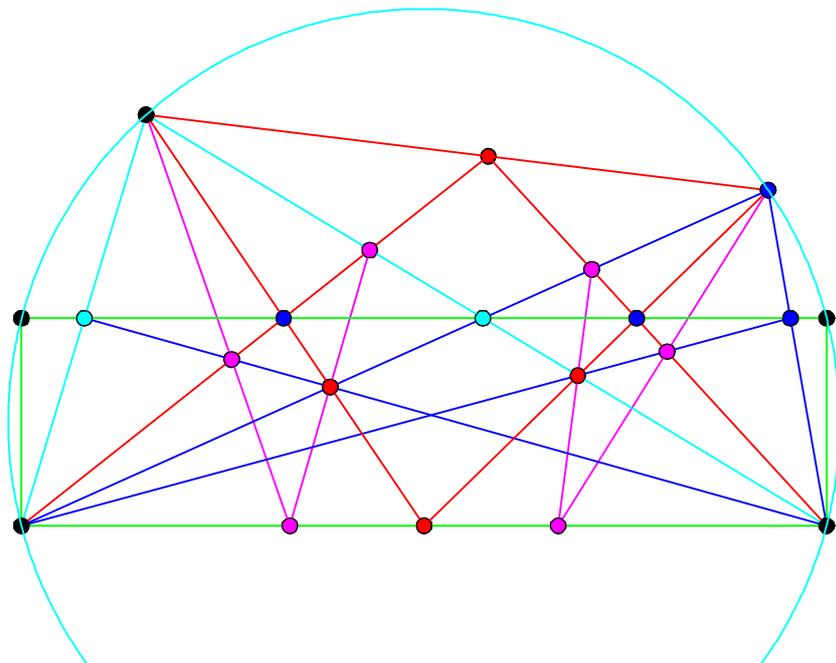


蛭子井博孝 1950年4月20日生まれ

KIBOU-07

2011-3-13

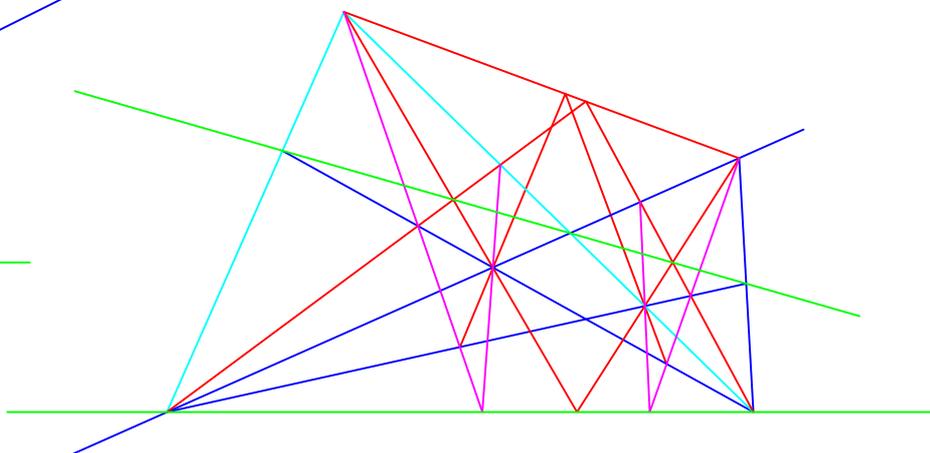
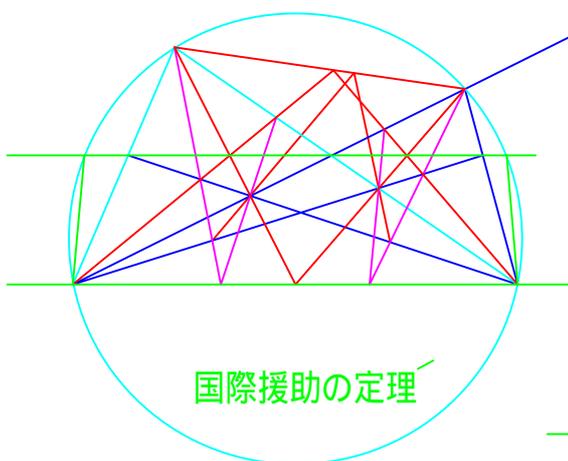
国際援助の定理



みんなの愛と情熱が残した定理

円パップス内部定理

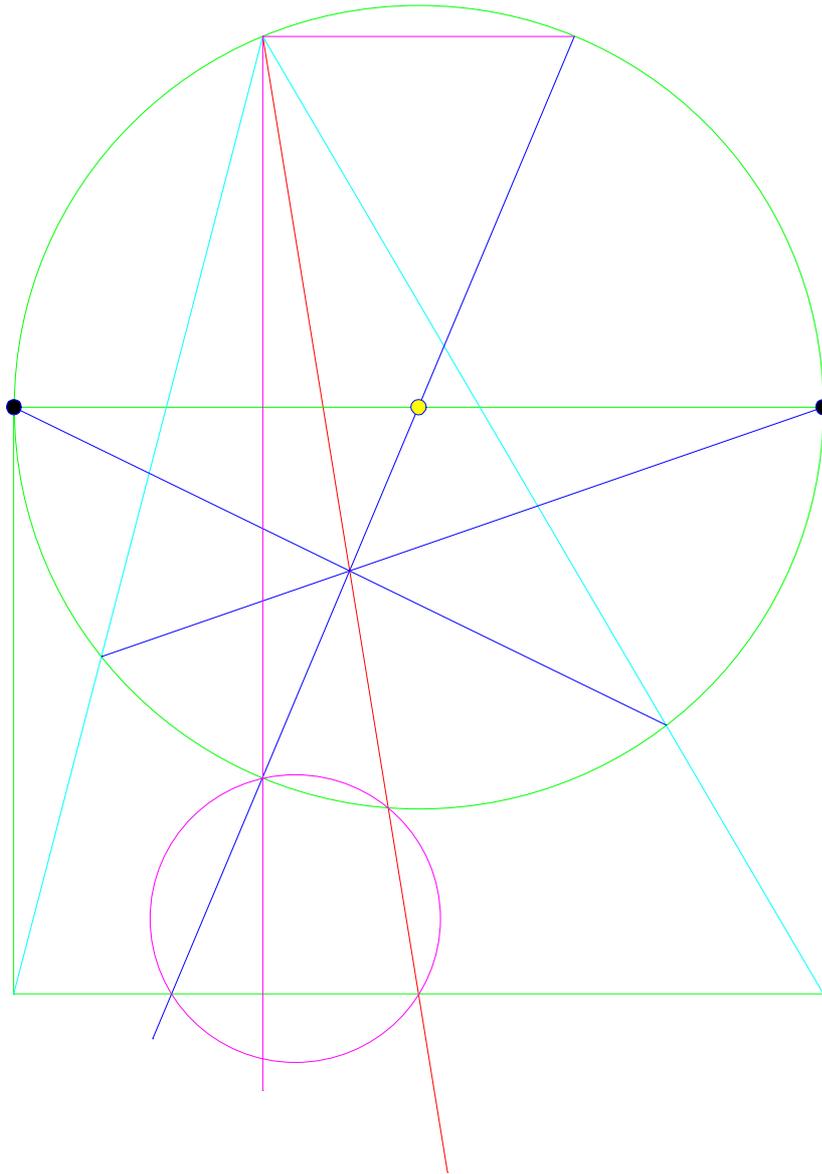
KIBOU-07-1-2



2011-3-19

コップとストロー定理

20100610

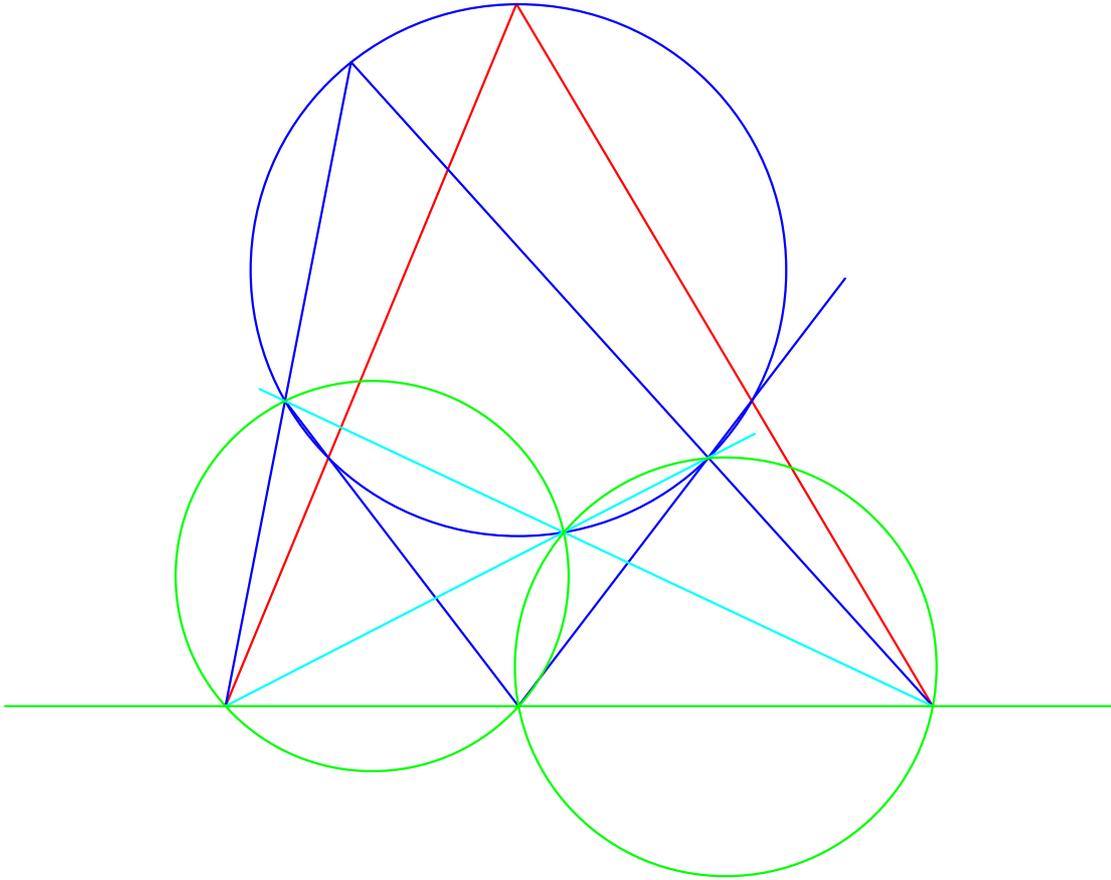


スプーンの定理

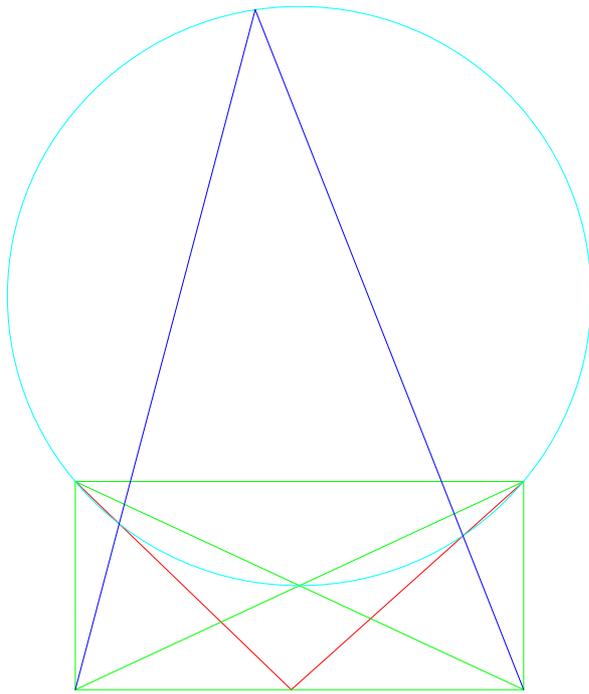
蛭子井博孝

2011-3-10

HI - 00025



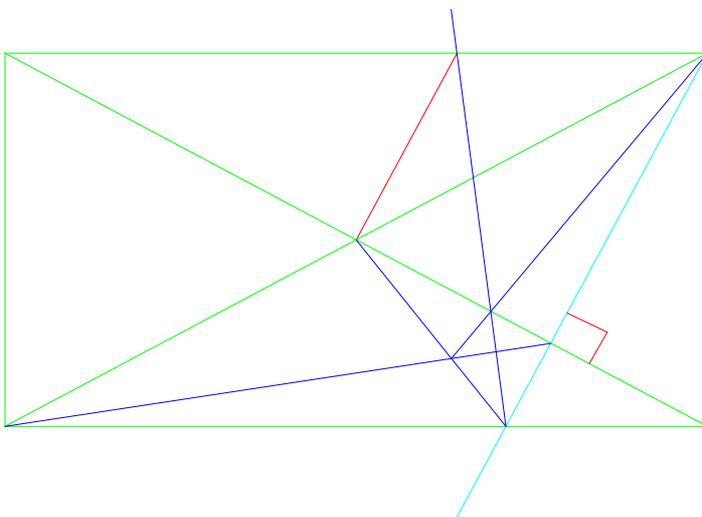
蛭子井博孝



HI-TKG-5-4

蛭子井博孝

HI-TKG-5-5



蛭子井博孝

6点円 実践 6点円 6テスト問題

問題1. 各図共通 この中で、6点を選び、同一円周上にある6点を見つけよ

問題2. ○の中に作図(描く)順序番号を入れよ

問題3 図2, 3, 5には、三角形の5心の一つが、共通に使われています。それはどんな名前ですか

問題4、図5の中の点はどんな点でしょうか

問題5 図3の青の円は、同じ形式で描いています。どんな描き方でしょうか

問題6 図4の左右は同じ構図を持ちますどんな構図でしょうか。

蛭子井博孝

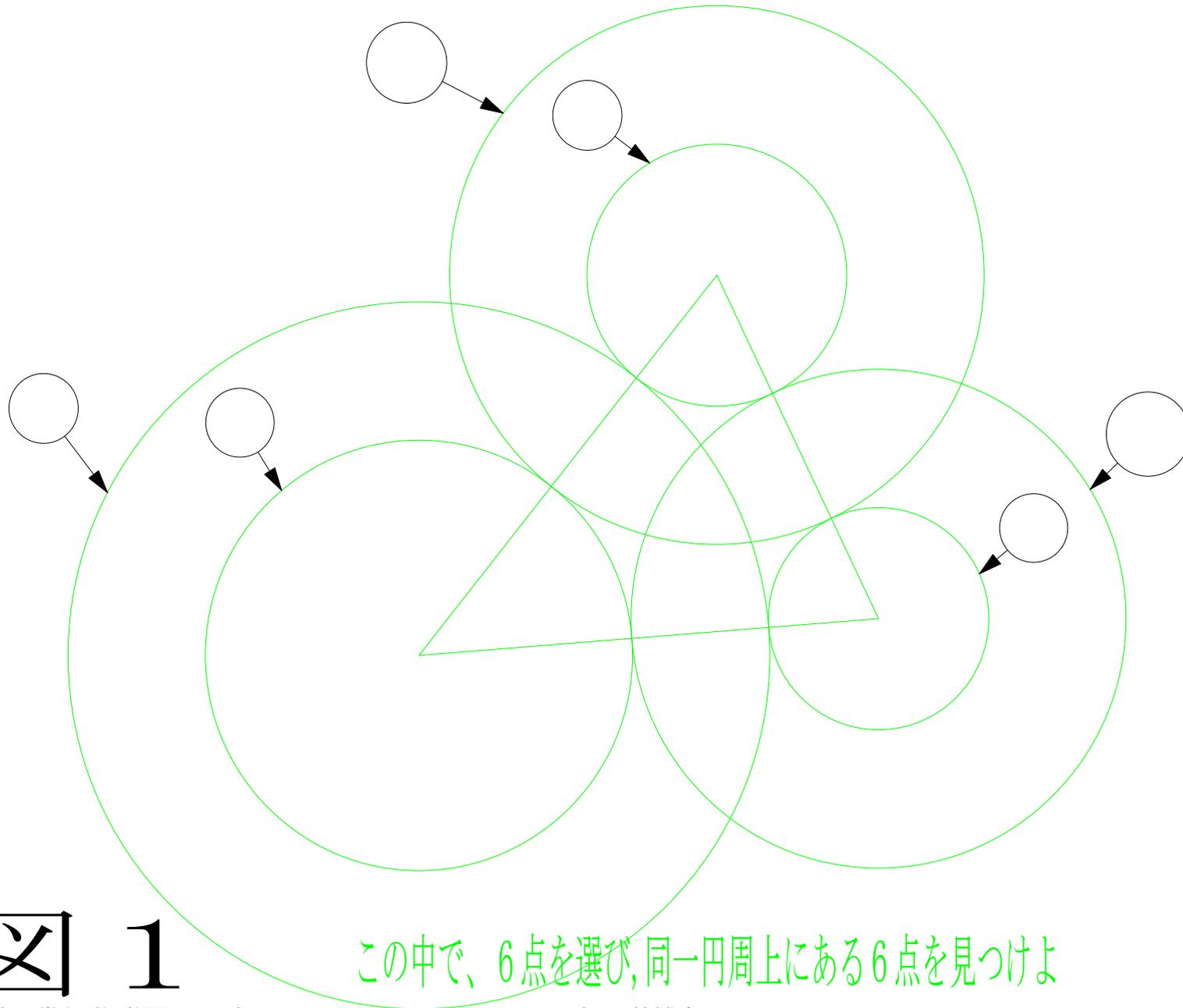


図 1

この中で、6点を選び、同一円周上にある6点を見つけよ

蛭子井博孝

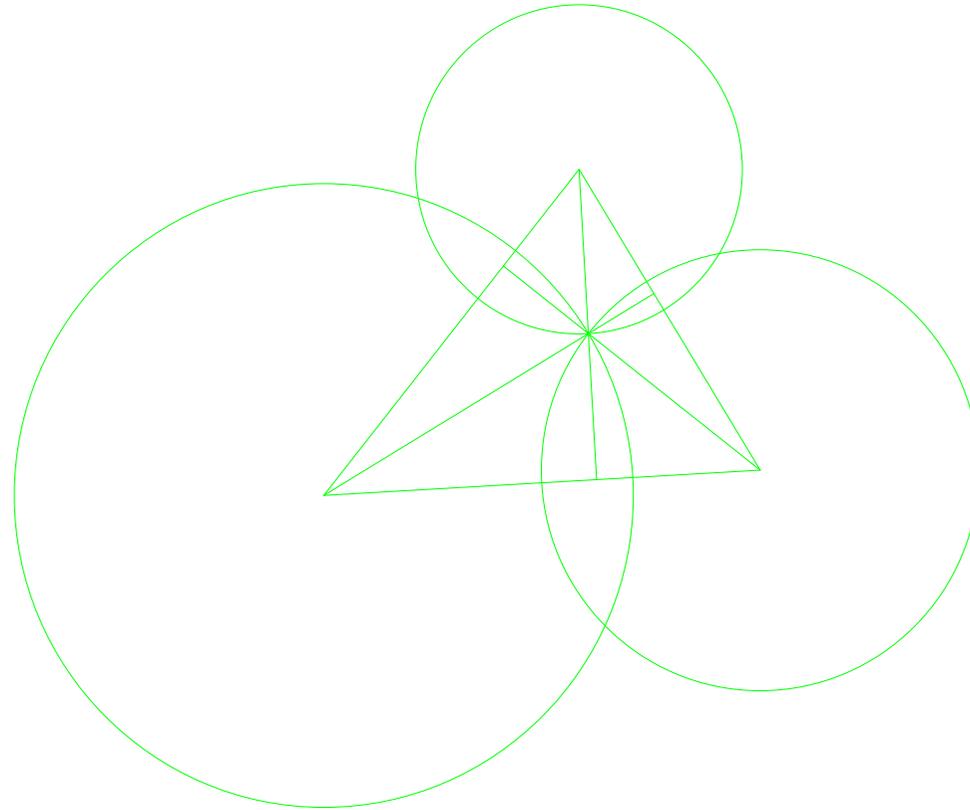


図 2

この中で、6点を選び、同一円周上にある6点を見つけよ

蛭子井博孝

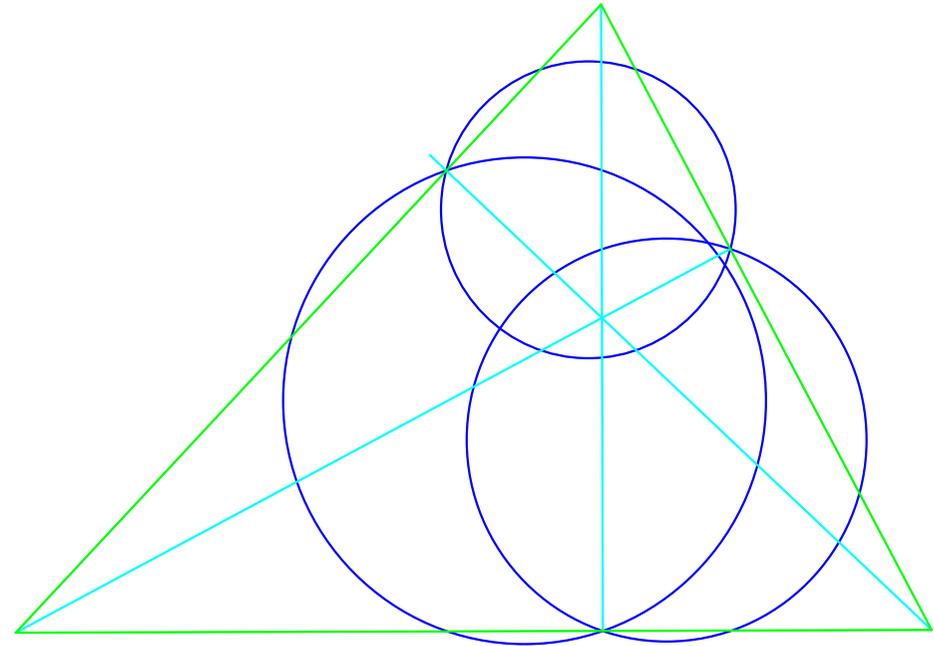
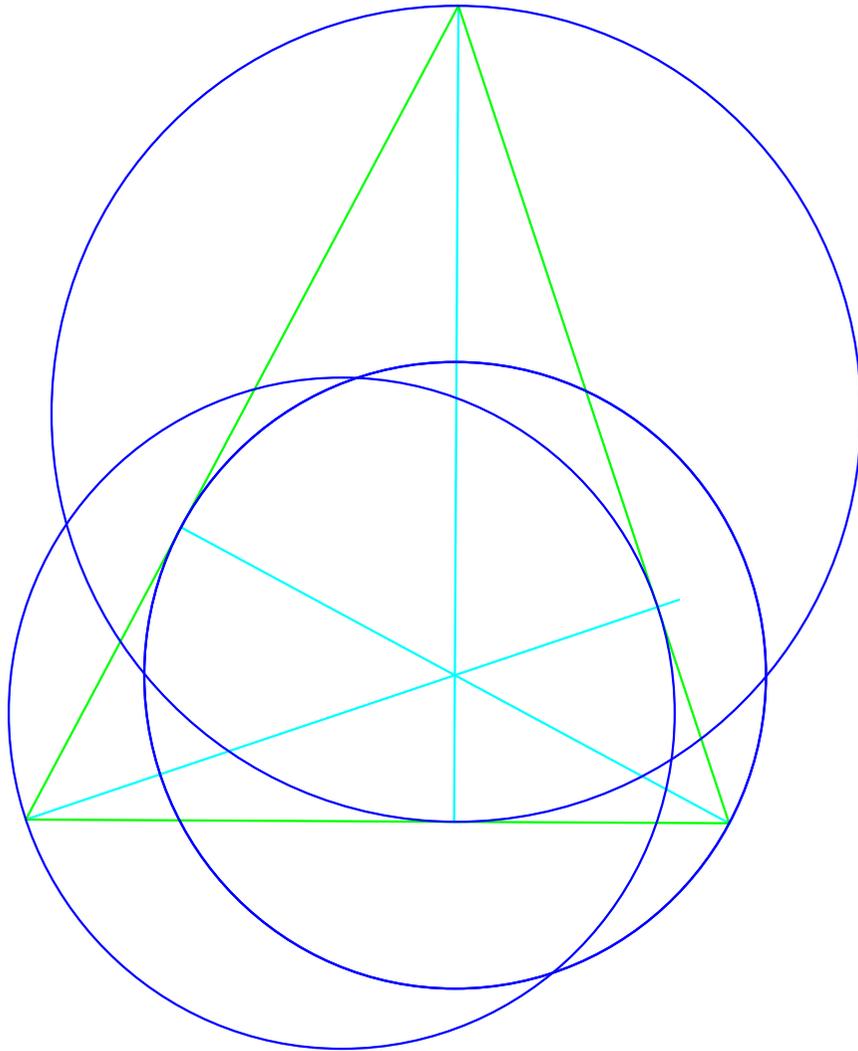


図 3

この中で、6点を選び、同一円周上にある6点を見つけよ

蛭子井博孝

2011-2-5

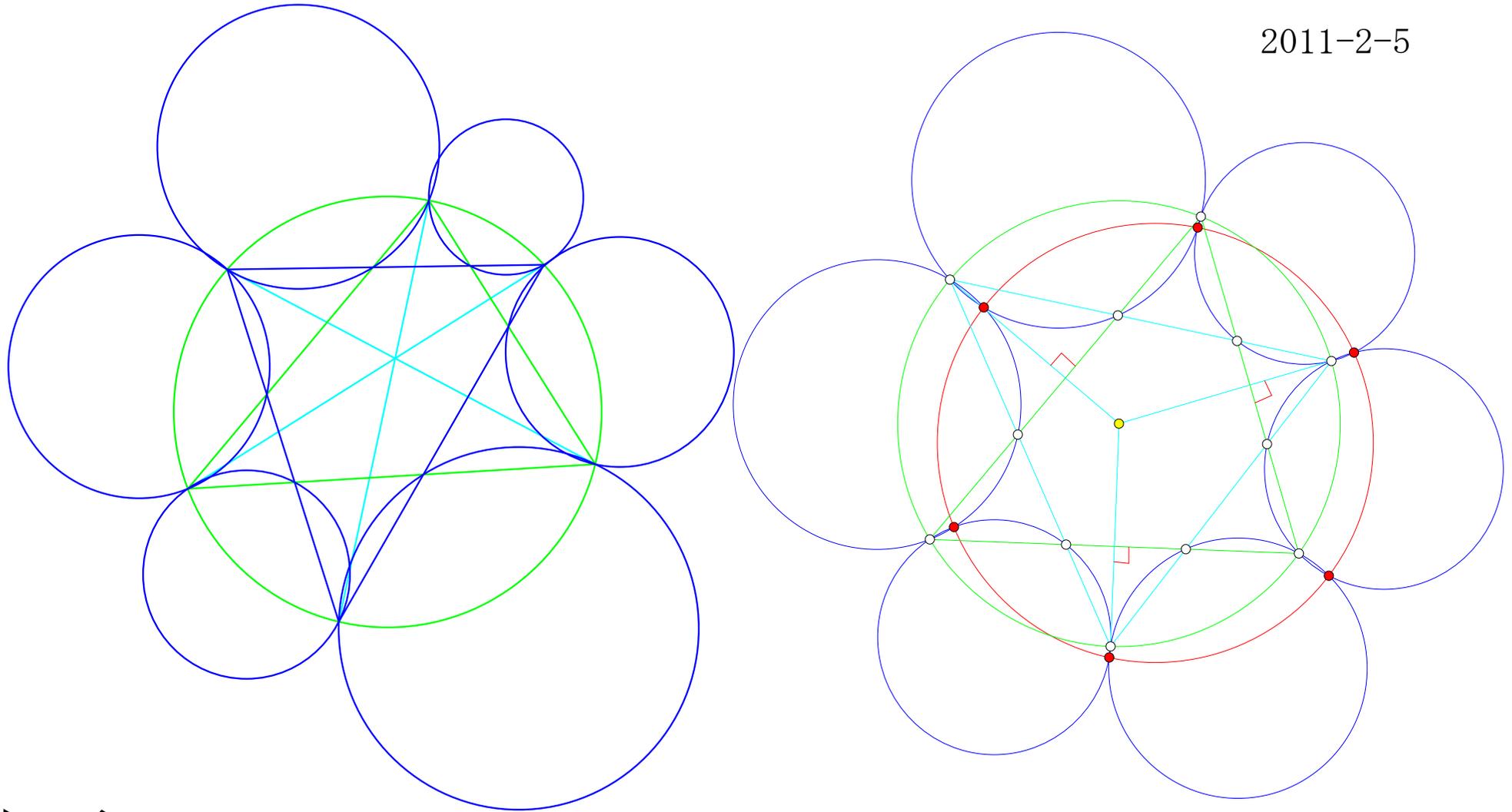


図 4

この中で、6点を選び、同一円周上にある6点を見つけよ

蛭子井博孝

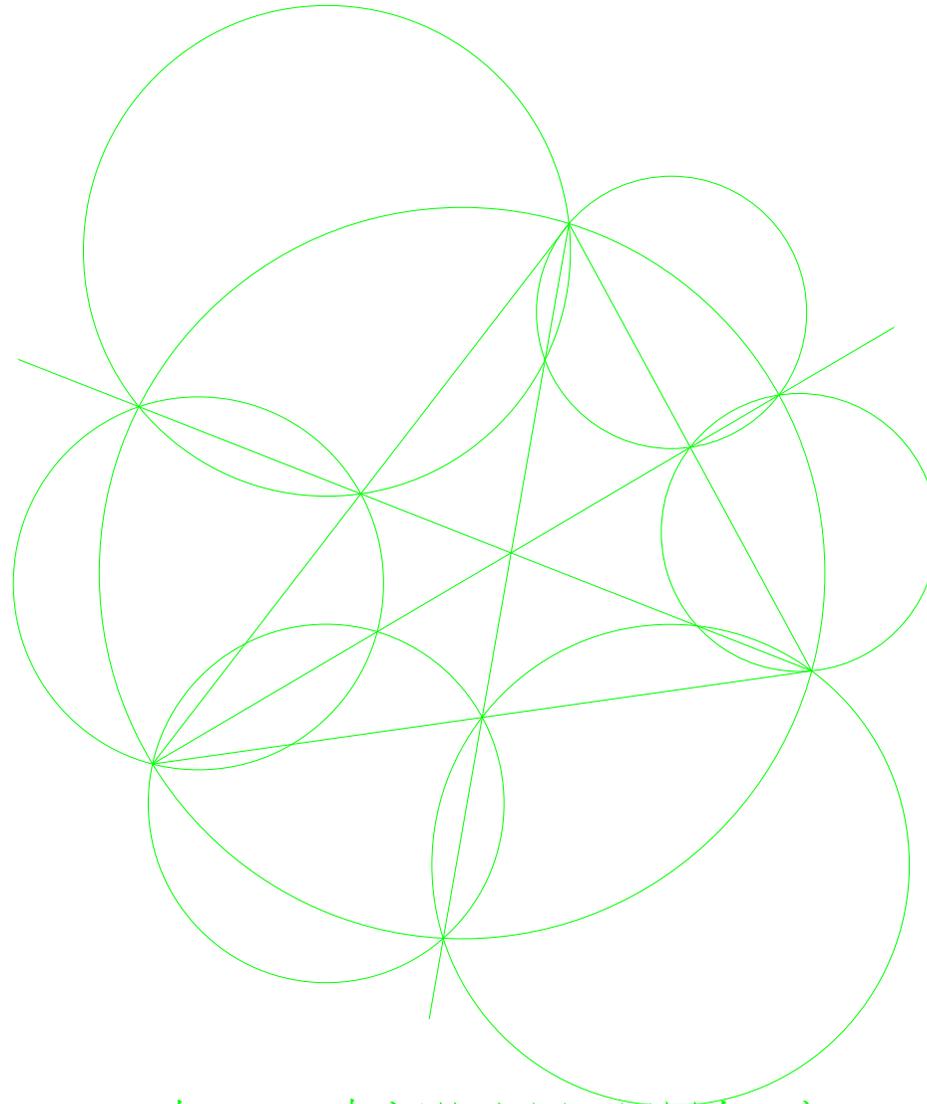


図 5

この中で、6点を選び、同一円周上にある6点を見つけよ

蛭子井博孝

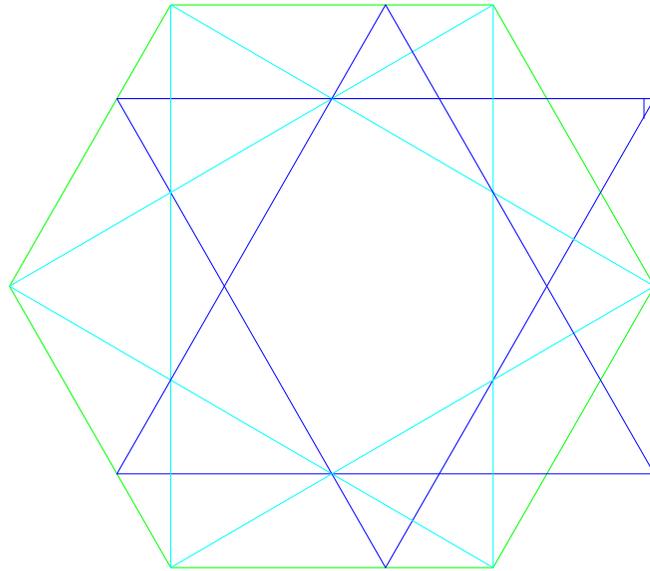


図 6

この中で、6点を選び、同一円周上にある6点を見つけよ

蛭子井博孝

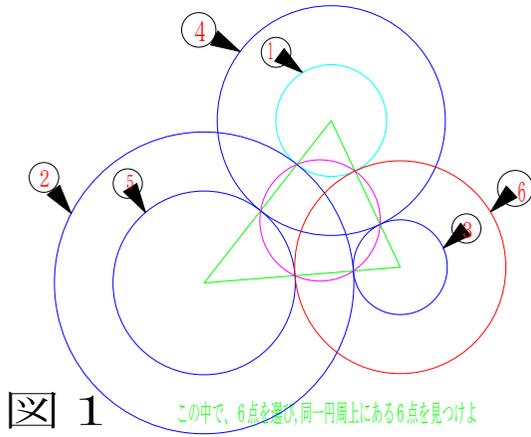


図 1 この中で、6点を選び、同一円周上にある6点を見つけよ

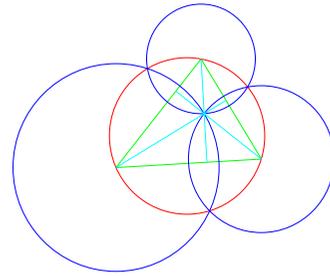


図 2 この中で、6点を選び、同一円周上にある6点を見つけよ
垂心

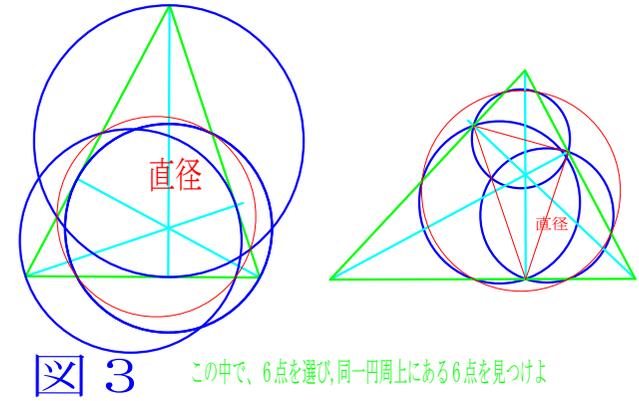


図 3 この中で、6点を選び、同一円周上にある6点を見つけよ
垂心

6点円解答例

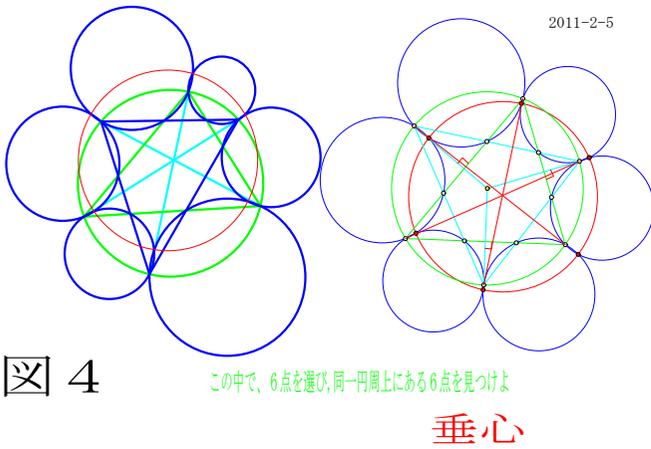


図 4 この中で、6点を選び、同一円周上にある6点を見つけよ
垂心

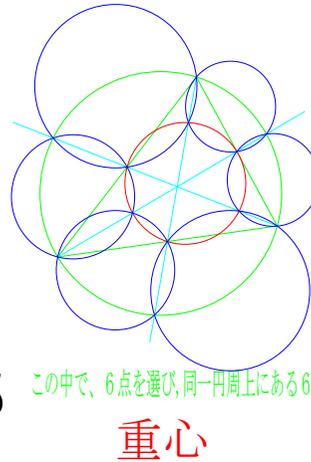


図 5 この中で、6点を選び、同一円周上にある6点を見つけよ
重心

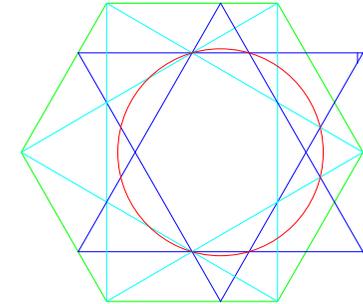
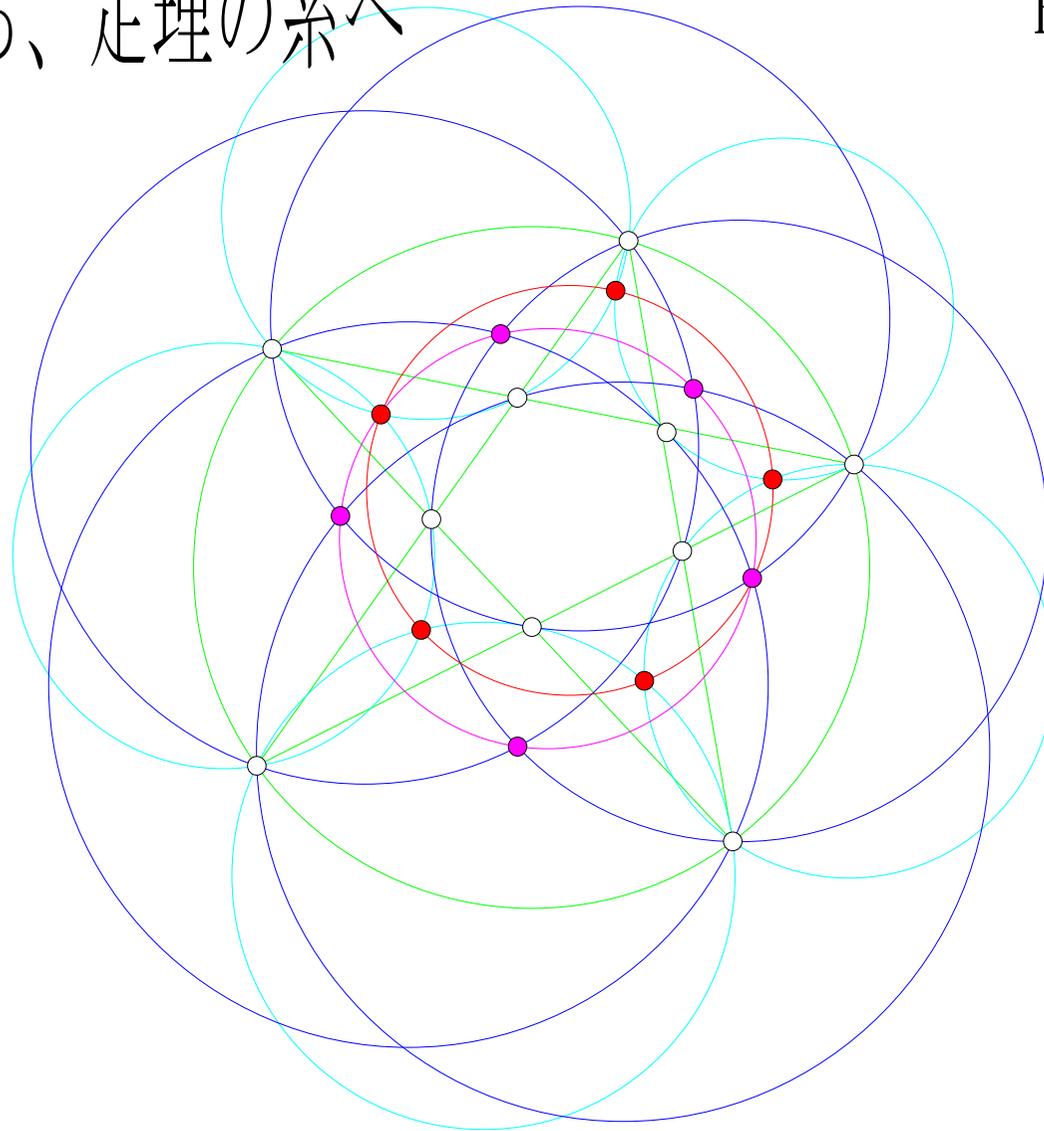


図 6 この中で、6点を選び、同一円周上にある6点を見つけよ

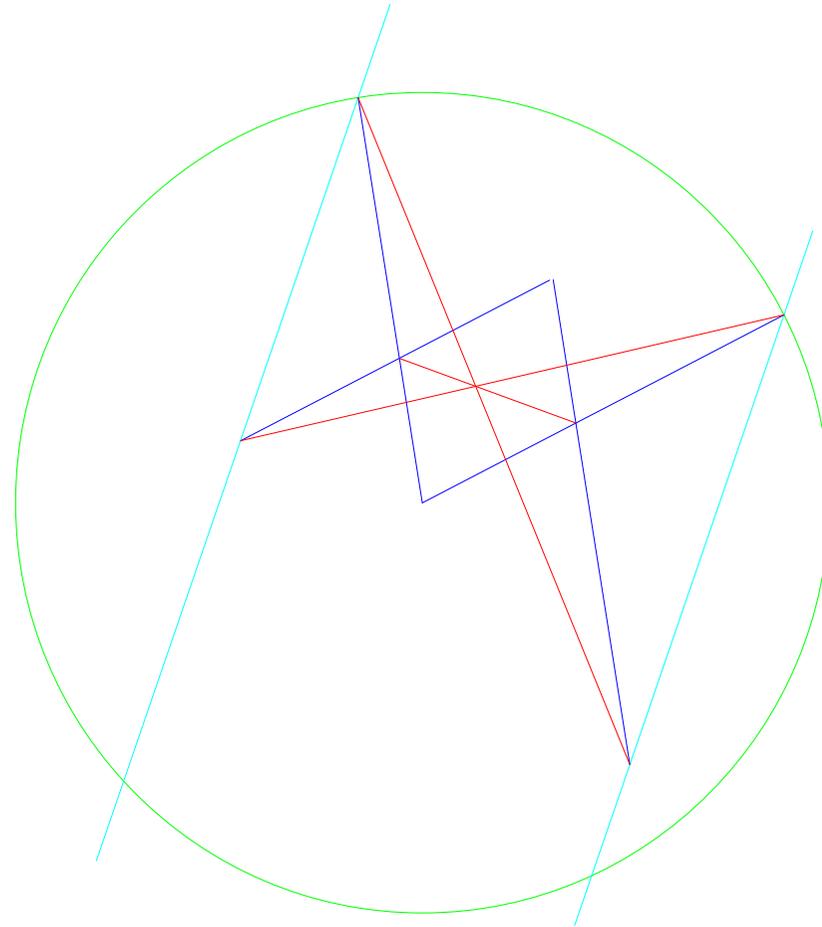
定理から、定理の系へ

HI-TENJI-20



基礎の応用 発展の基礎

HI-TENJI-21



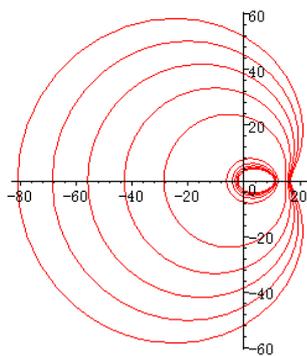
蛭子井博孝 740-0012岩国市元町4丁目12-10

About Oval (Doval)

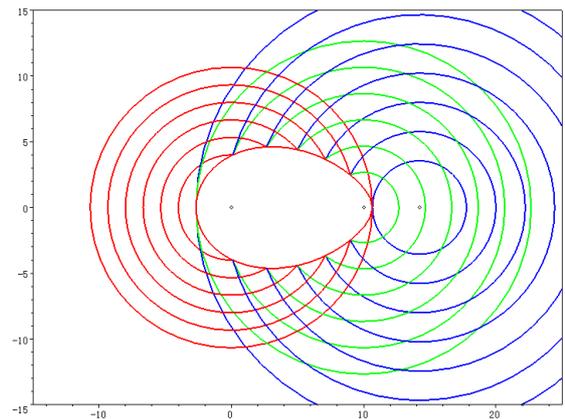
Hiroataka Ebisui

Oval Research Center

IWAKUNI near HIROSHIMA



Confocal Doval
共焦点 Doval



Three focus points
Trade Mark ($E_R=0.9, E_L=0.6$)

1. Introduction

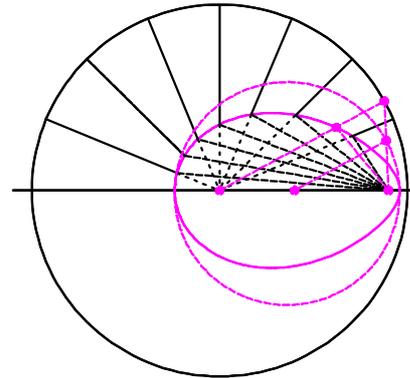
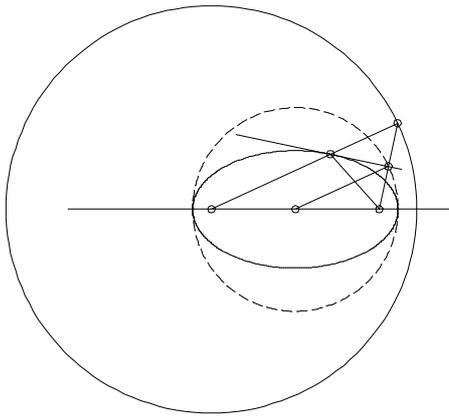


Fig.1. Composition of Tangent on Ellipse Fig.2. Oval extended from Ellipse

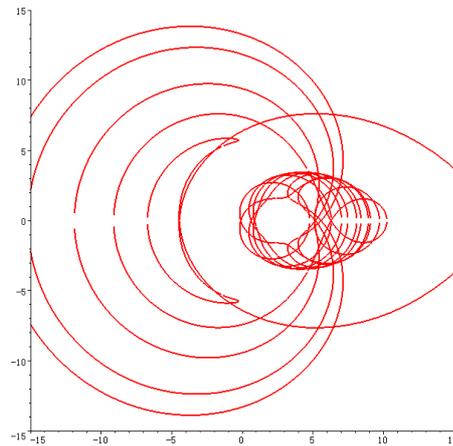
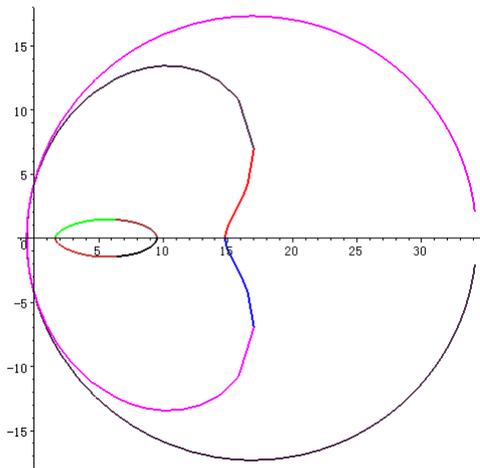


Fig.3. Chocoid extended from Doval

Fig.4. Tajicoid extended from the Oval

Tangent line is a perpendicular bisector in Fig.1

We extend bisector(1:1) to (n:m), then Oval is obtained.

When ratio is (n:m), then DOVAL(theOval) is also defined

by $mR1 \pm nR2 = k c$.

But Chocoid and Tajicoid have not yet a simple equation. It can be only defined by Maple Program which is made by Definition-Composition of Chocoid and Tajicoid respectively.

2. Definition of Doval

We call inner and outer part of Oval as **DOVAL**

Inner and Outer Part of the Oval = **Doval**

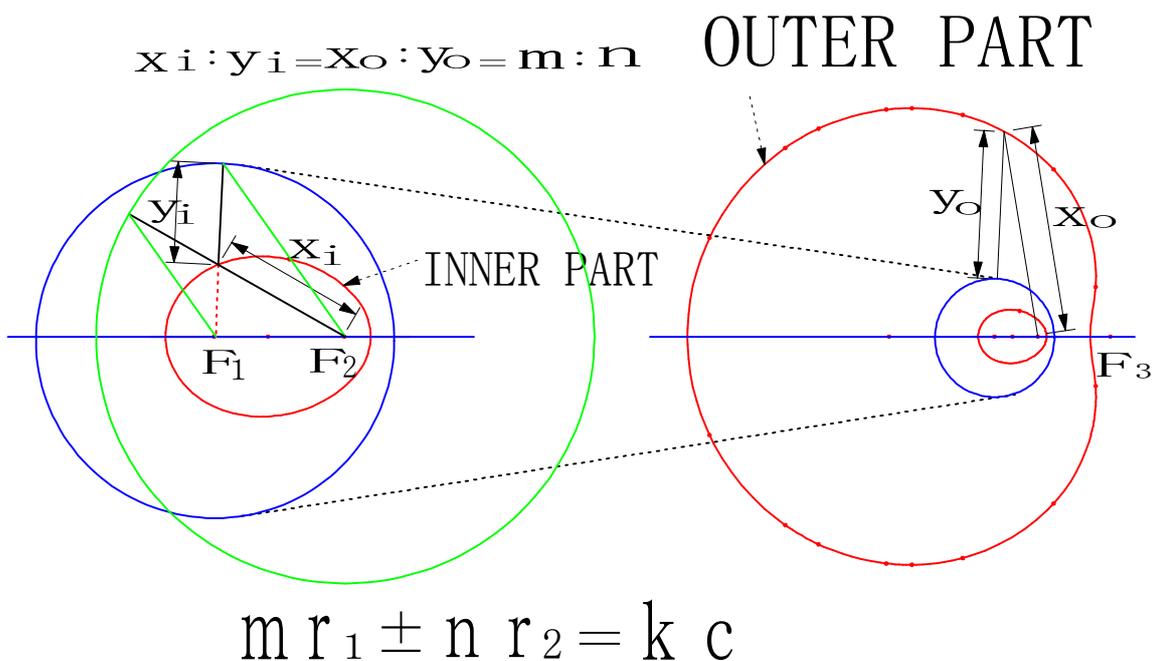


Fig.4. Definition of Doval using Ratio and Director Circle

Radius of Director circle = kc/m , kc/n

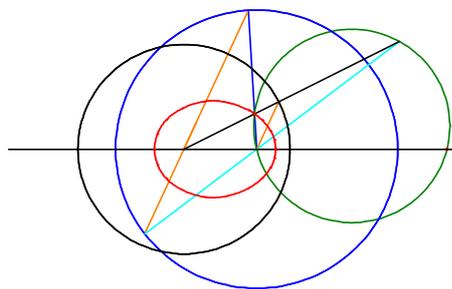


Fig.5 Doval innerpart defined by two director circles

2' DOVAL DEFINITION

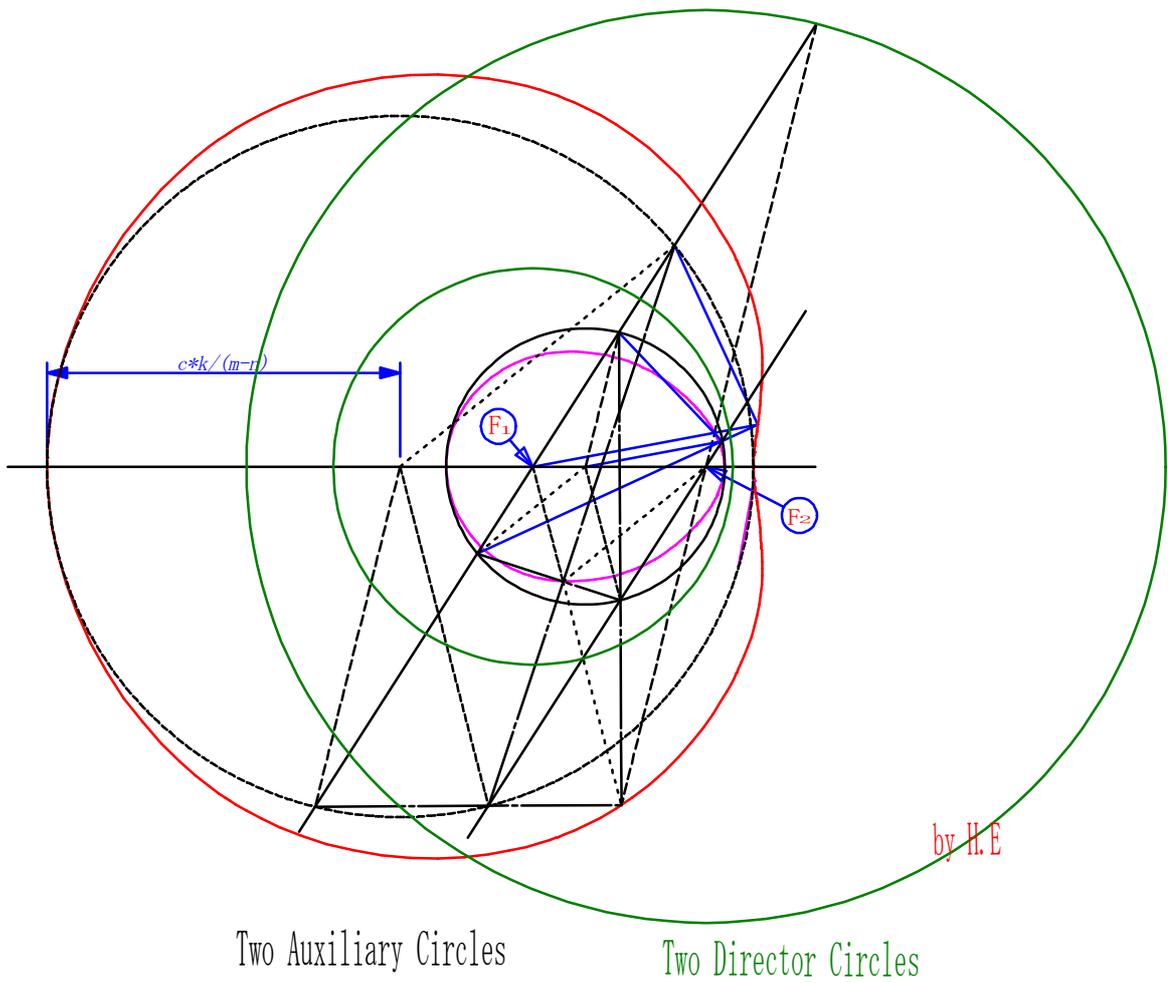


Fig.6 Doval defined by Two Auxiliary Circles

4. PROPOSITION

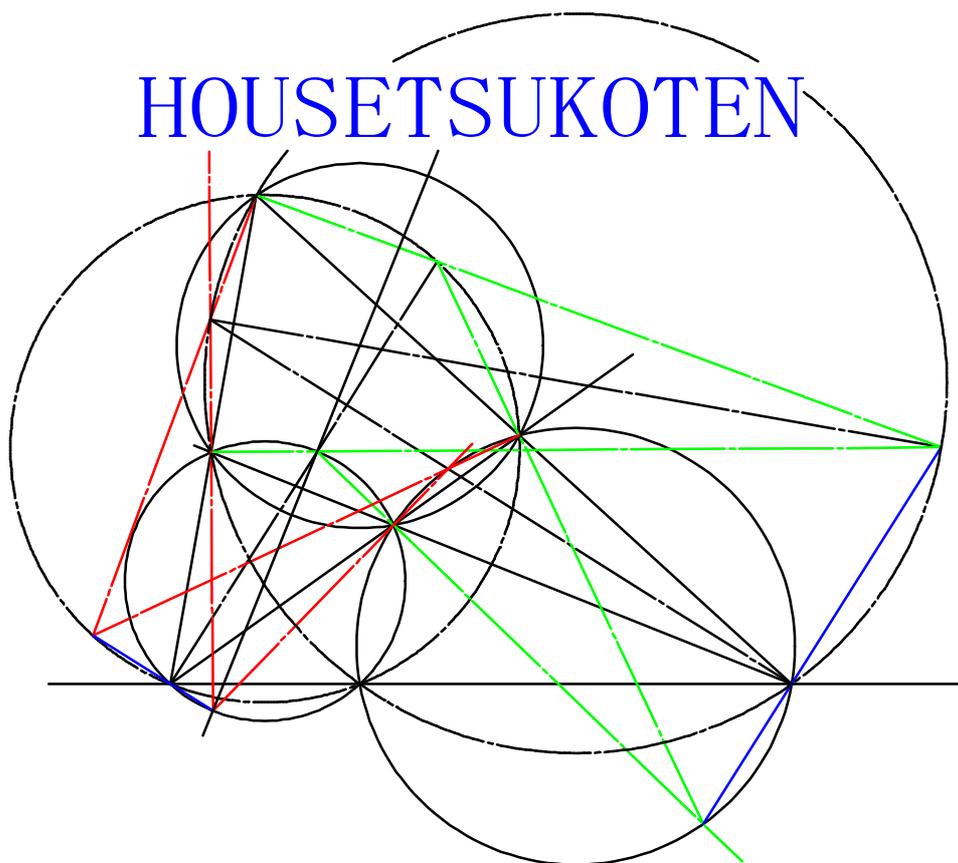


Fig.7. Green lines are tangent of Doval.

Red lines are normal lines of Doval

---STANDARD FORM OF Doval Equation---

$mr_1 \pm nr_2 = kc$ is transformed to followings

$$(m^2 - n^2)^2 \left\{ y^2 + X^2 - \left(\frac{k^2 m^2 + k^2 n^2 + m^2 n^2}{(m^2 - n^2)^2} \right) c^2 \right\}^2$$

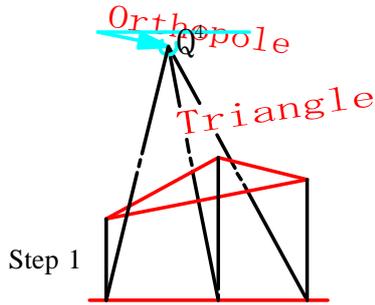
$$= -\frac{8k^2 m^2 n^2 c^3}{m^2 - n^2} X + \frac{4k^2 m^2 n^2 (k^2 + m^2 + n^2) c^4}{(m^2 - n^2)^2}$$

$$X = x + \frac{n^2 c}{m^2 - n^2}$$

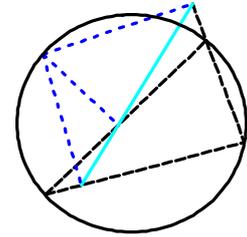
by HE

5. Infinity Chain Theorem

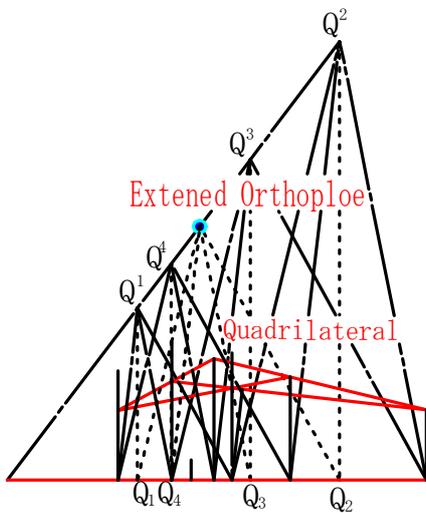
We use following theorem in order to define Chocoid and Tajicoid.



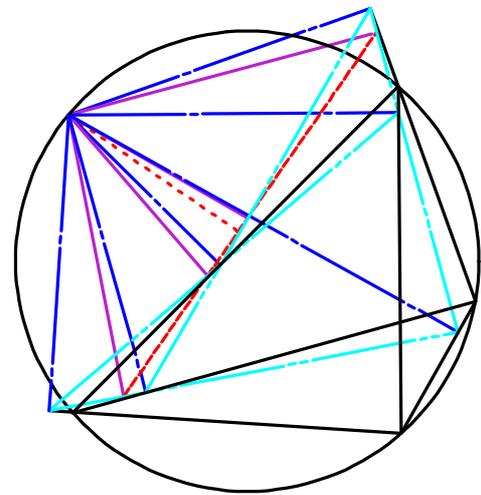
Step 1



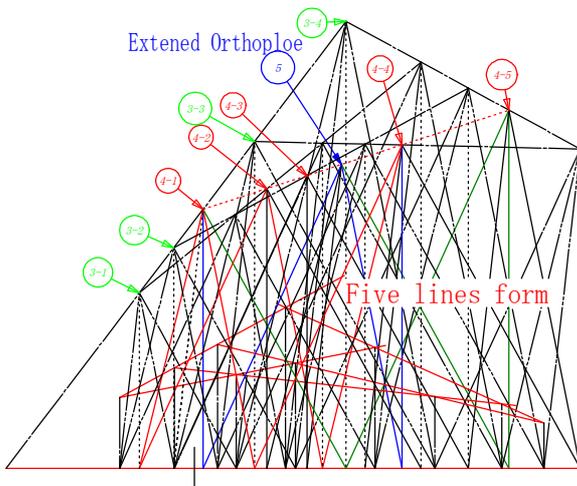
Simson Theorem (Step1 (Chain3))



Step 2 (Chain 4)

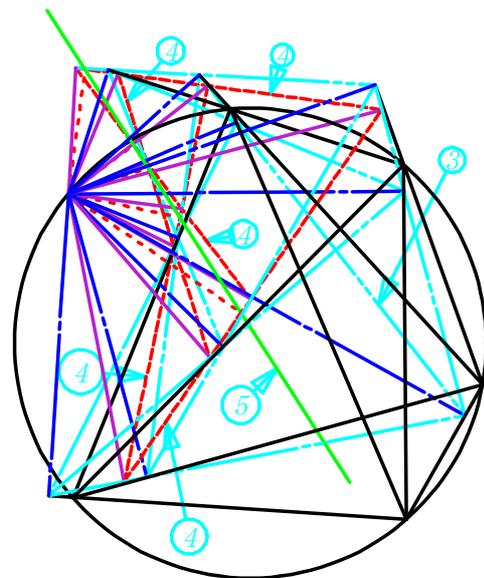


Step 2 (Chain 4)



Step 3 (Chain 5)

Fig.8. Orthopole Chain



Step 3 (chain 5)

Fig.9. Simson Chain by H.E

6 . Relation of Extended Curves Chocoid and Tajicoid

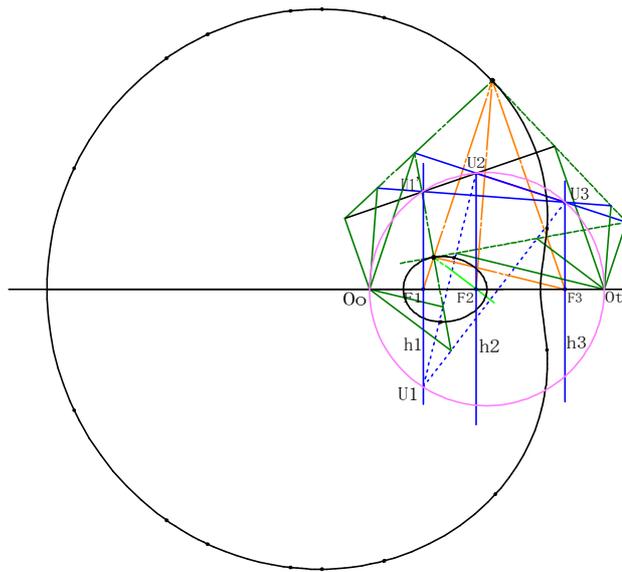


Fig.10.

In this figure, Orthopole and Simson cross-point are on same position.

(1) Extension of Doval using extended Simson theorem-Composition.

Tajicoid is defined using This figures.

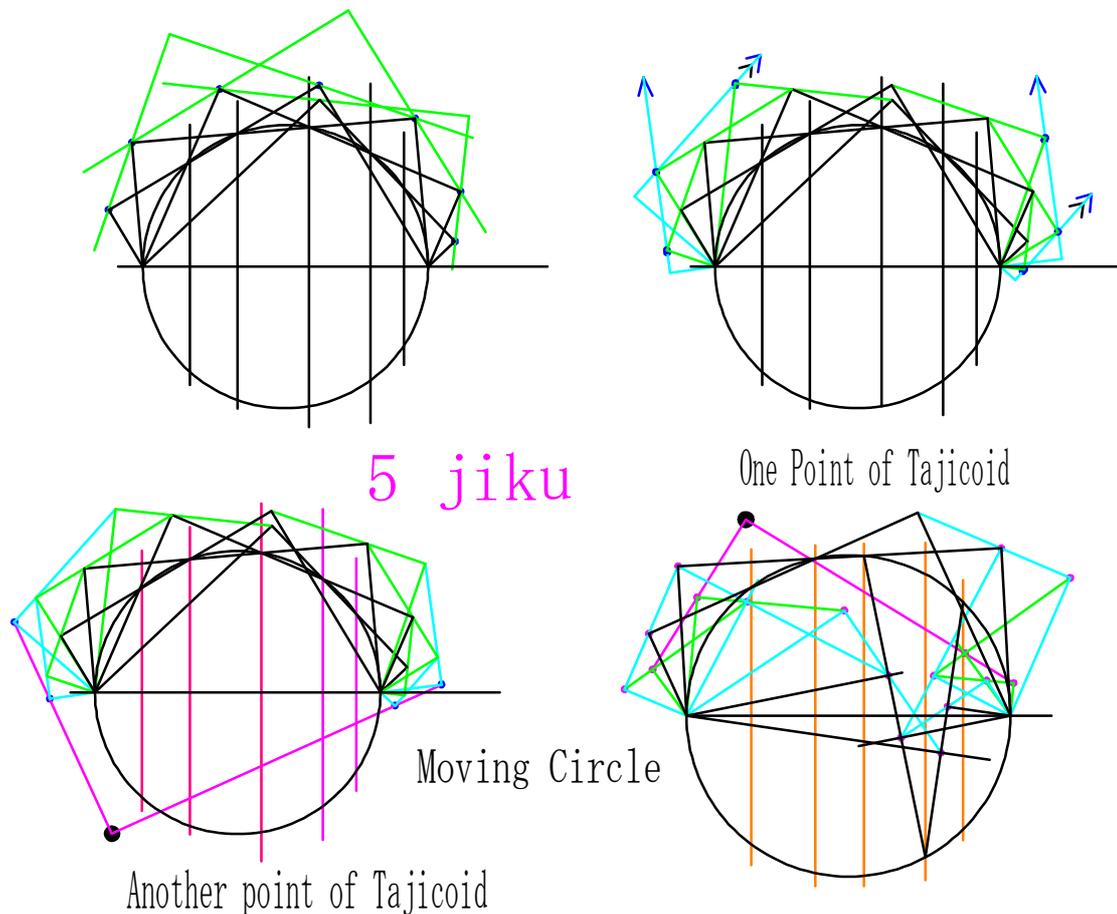


Fig.11. Def. Figure of Tajicoid

by H.E

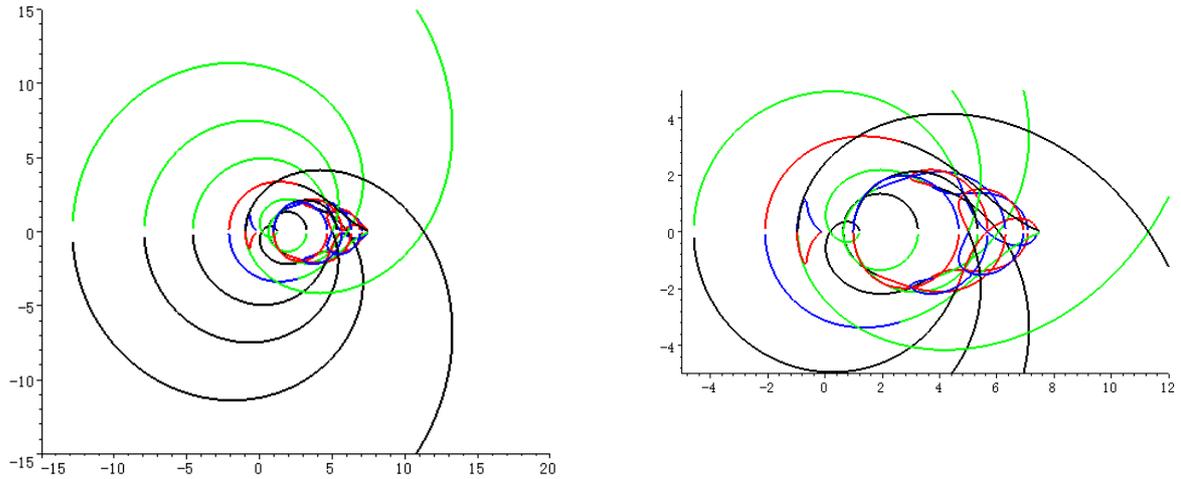


FIG.12. Tajicoid パラメーター 1, 2, 3, 4, 5

(2) Extension of Doval using extended Orthopole theorem-Composition.

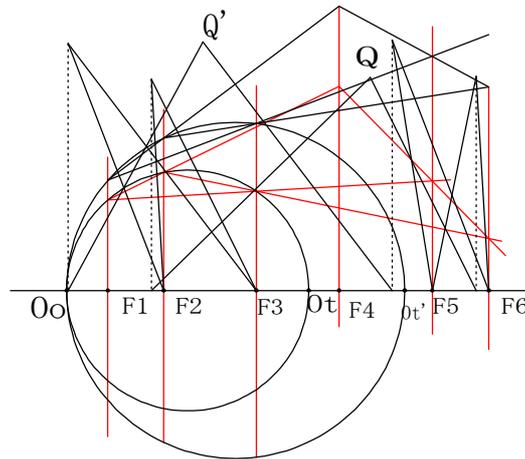
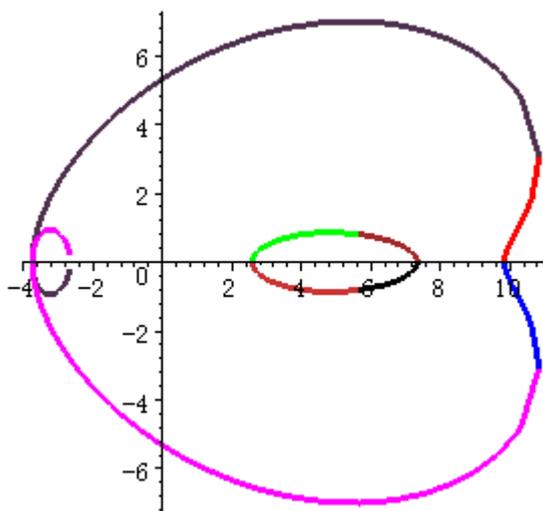


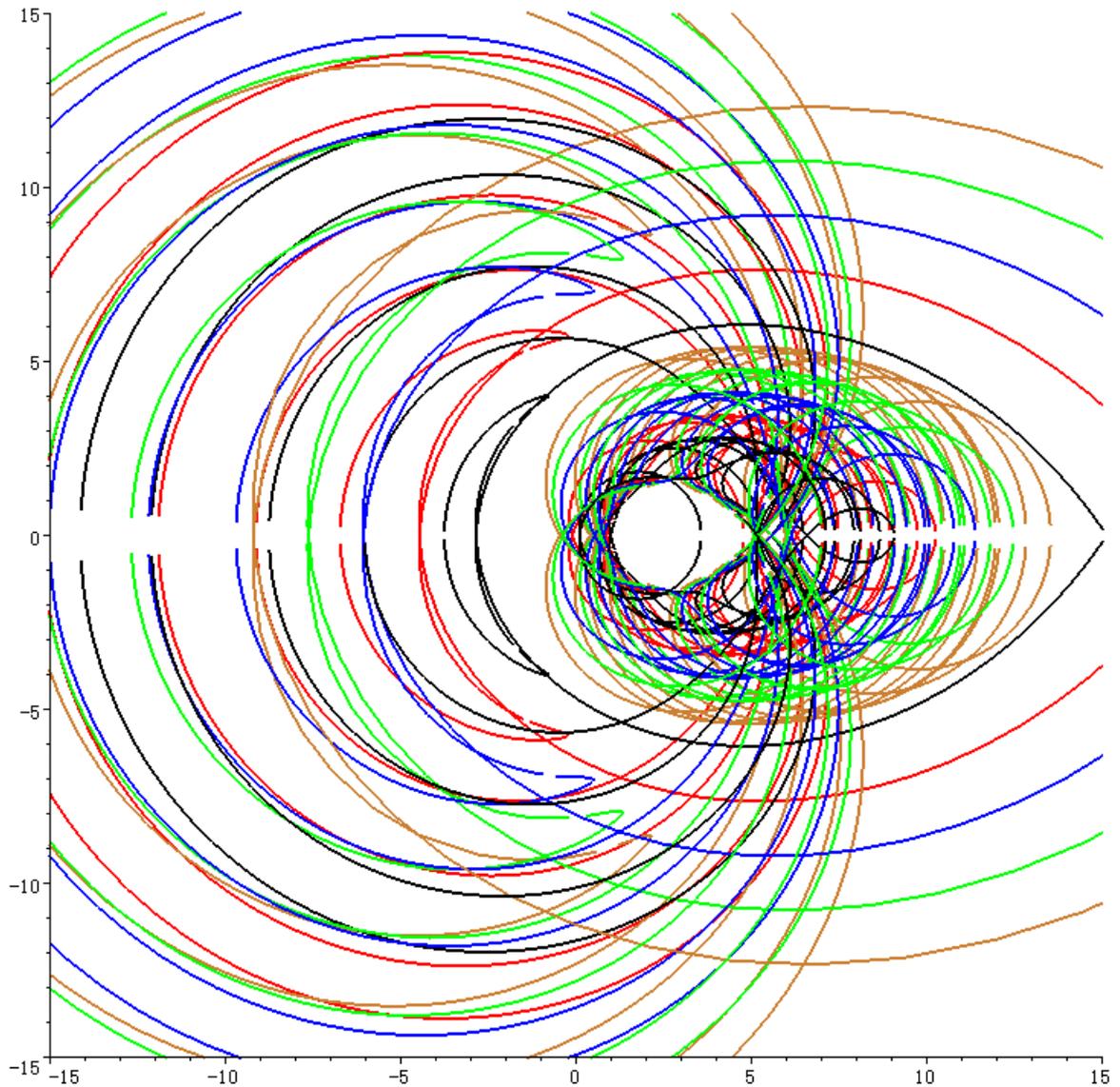
FIG.13. DEF Figure Of Chocoid



Parameter $x_1 = 1$, $x_2 = 2$, $x_3 = 3$, $x_4 = 5$, $x_5 = 150/23$, $x_6 = 165/19$

Fig.14. Chocoid with 6foci by H.E

7. Confocal Tajicoid



Parameter $0_0 = -1, -2, -3, -4, -5,$

$F_1 \sim F_5 = 1, 2, 3, 4, 5$

We can draw confocal Tajicoid

because Tajicoid have 5 foci.

Fig.1 5. Confocal Tajicoid

By H.E