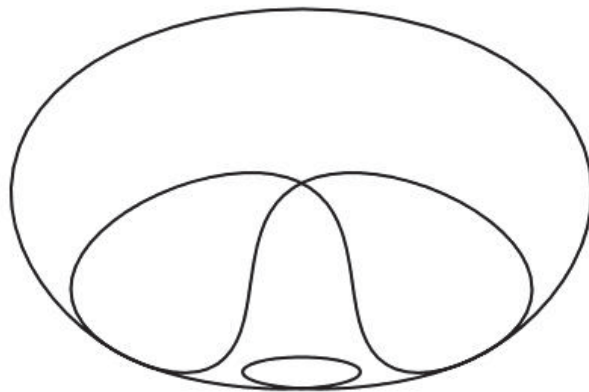


数の2進3進数を用いたグラフ

2 3、 9 6 KUN 9 9 9



蛭子井博孝作

卵形線研究センター

<http://geomatics85.org/>

$$X=0$$

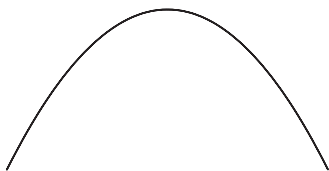
$$Y=0$$



$$1_{[1]} = \text{HeFe}(0) = 1_3 \sin \alpha = 0 = 0$$

$$X = \sin(x)$$

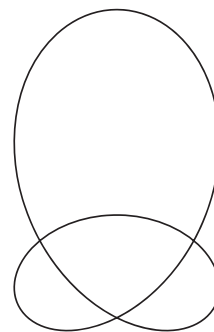
$$Y = 0$$



$$2_{[2]} = \text{HeFe}(2) = 2_3 \sin \alpha = 2 = 10_2 \sin \alpha$$

$$X = 2 \sin(x)$$

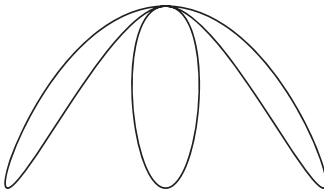
$$Y = \cos(2x)$$



$$3_{[3]} = \text{HeFe}(3) = 10_3 \sin \alpha = 11_2 \sin \alpha$$

$$X = \sin(2x)$$

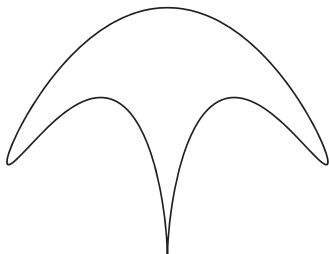
$$Y = \cos(x) + \cos(2x)$$



$$4_{[2,2]} = \text{HeFe}(4) = 11_3 \sin \alpha = 100_2 \sin \alpha$$

$$X = \sin(x) + \sin(2x)$$

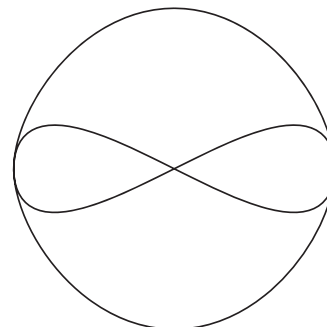
$$Y = \cos(3x)$$



$$5_{[1,5]} = \text{HeFe}(5) = 12_3 \sin \alpha = 101_2 \sin \alpha$$

$$X = 2 \sin(x) + \sin(2x)$$

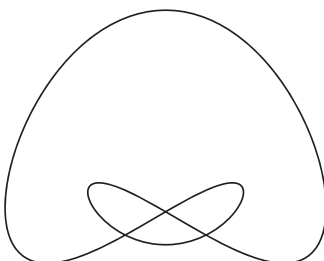
$$Y = \cos(x) + \cos(3x)$$



$$6_{[2,3]} = \text{HeFe}(6) = 20_3 \sin \alpha = 101_2 \sin \alpha$$

$$X = 2 \sin(2x)$$

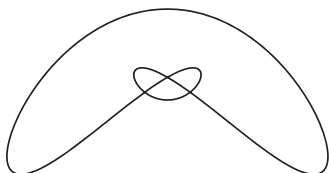
$$Y = \cos(x) + \cos(3x)$$



$$7_{[1,7]} = \text{HeFe}(7) = 21_3 \sin \alpha = 111_2 \sin \alpha$$

$$X = \sin(x) + 2 \sin(2x)$$

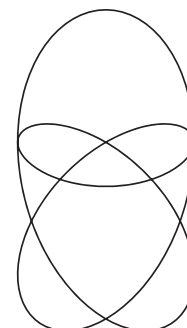
$$Y = \cos(x) + \cos(2x) + \cos(3x)$$



$$8_{[2,2,2]} = \text{HeFe}(8) = 22_3 \sin \alpha = 110_2 \sin \alpha$$

$$X = 2 \sin(x) + 2 \sin(2x)$$

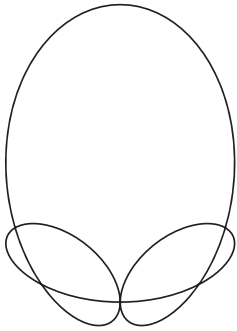
$$Y = \cos(2x) + \cos(3x)$$



$$9_{[3,3]} = \text{HeFe}(9) = 100_3 \sin \alpha = 110_2 \sin \alpha$$

$$X = \sin(3x)$$

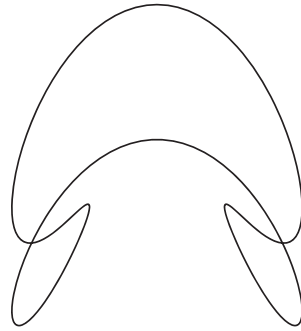
$$Y = \cos(2x) + \cos(3x)$$



$$10_{\left[ \begin{smallmatrix} 2 & 5 \\ 12 & 5 \end{smallmatrix} \right]} = \text{HrFol}(7) = 101_3 \text{sinus}^7 = 111_2 \text{sinus}$$

$$X = \sin(x) + \sin(3x)$$

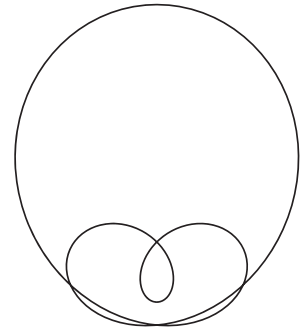
$$Y = \cos(x) + \cos(2x) + \cos(3x)$$



$$11_{\left[ \begin{smallmatrix} 11 \\ 11 \end{smallmatrix} \right]} = \text{HrFol}(11) = 102_3 \text{sinus}^11 = 1011_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(3x)$$

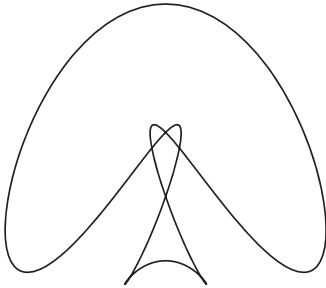
$$Y = \cos(x) + \cos(2x) + \cos(4x)$$



$$12_{\left[ \begin{smallmatrix} 2 & 3 \\ 12 & 5 \end{smallmatrix} \right]} = \text{HrFol}(7) = 110_3 \text{sinus}^7 = 111_2 \text{sinus}$$

$$X = \sin(2x) + \sin(3x)$$

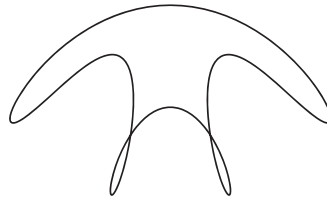
$$Y = \cos(x) + \cos(2x) + \cos(3x)$$



$$13_{\left[ \begin{smallmatrix} 13 \\ 13 \end{smallmatrix} \right]} = \text{HrFol}(13) = 111_3 \text{sinus}^13 = 1101_2 \text{sinus}$$

$$X = \sin(x) + \sin(2x) + \sin(3x)$$

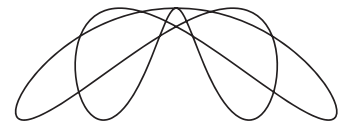
$$Y = \cos(x) + \cos(3x) + \cos(4x)$$



$$14_{\left[ \begin{smallmatrix} 2 & 7 \\ 12 & 9 \end{smallmatrix} \right]} = \text{HrFol}(9) = 112_3 \text{sinus}^9 = 1001_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(2x) + \sin(3x)$$

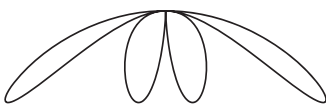
$$Y = \cos(x) + \cos(4x)$$



$$15_{\left[ \begin{smallmatrix} 5 & 5 \\ 12 & 5 \end{smallmatrix} \right]} = \text{HrFol}(8) = 120_3 \text{sinus}^8 = 1000_2 \text{sinus}$$

$$X = 2 \sin(2x) + \sin(3x)$$

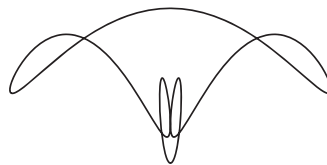
$$Y = \cos(4x)$$



$$16_{\left[ \begin{smallmatrix} 2 & 2 & 2 \\ 12 & 8 \end{smallmatrix} \right]} = \text{HrFol}(8) = 121_3 \text{sinus}^8 = 1000_2 \text{sinus}$$

$$X = \sin(x) + 2 \sin(2x) + \sin(3x)$$

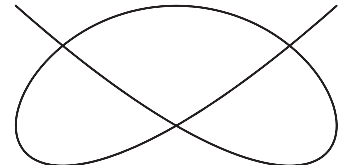
$$Y = \cos(4x)$$



$$17_{\left[ \begin{smallmatrix} 17 \\ 17 \end{smallmatrix} \right]} = \text{HrFol}(17) = 122_3 \text{sinus}^17 = 10001_2 \text{sinus}$$

$$X = 2 \sin(x) + 2 \sin(2x) + \sin(3x)$$

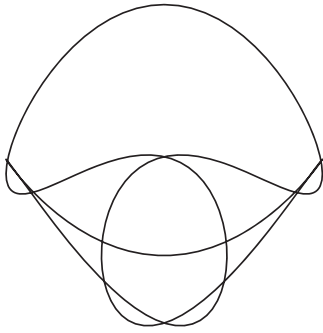
$$Y = \cos(x) + \cos(5x)$$



$$18_{\left[ \begin{smallmatrix} 2 & 3 \\ 12 & 8 \end{smallmatrix} \right]} = \text{HrFol}(8) = 200_3 \text{sinus}^8 = 1000_2 \text{sinus}$$

$$X = 2 \sin(3x)$$

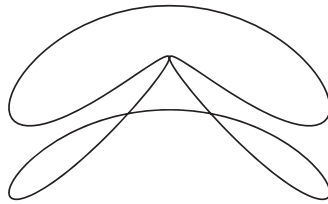
$$Y = \cos(4x)$$



$$19_{[19]} = \text{HrFc}(19) = 201_3 \text{sinus}, 19 = 10011_2 \text{sinus}$$

$$X = \sin(x) + 2 \sin(3x)$$

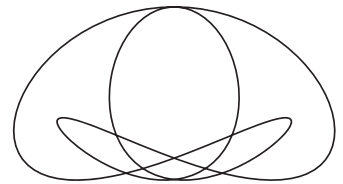
$$Y = \cos(x) + \cos(2x) + \cos(5x)$$



$$20_{[2,2,5]} = \text{HrFc}(9) = 202_3 \text{sinus}, 9 = 1001_2 \text{sinus}$$

$$X = 2 \sin(x) + 2 \sin(3x)$$

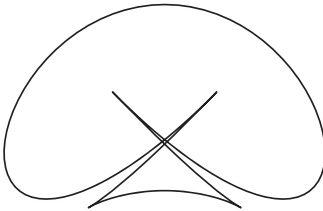
$$Y = \cos(x) + \cos(4x)$$



$$21_{[3,7]} = \text{HrFc}(10) = 210_3 \text{sinus}, 10 = 1010_2 \text{sinus}$$

$$X = \sin(2x) + 2 \sin(3x)$$

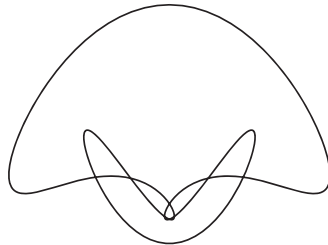
$$Y = \cos(2x) + \cos(4x)$$



$$22_{[2,11]} = \text{HrFc}(13) = 211_3 \text{sinus}, 13 = 1101_2 \text{sinus}$$

$$X = \sin(x) + \sin(2x) + 2 \sin(3x)$$

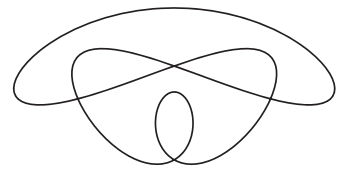
$$Y = \cos(x) + \cos(3x) + \cos(4x)$$



$$23_{[23]} = \text{HrFc}(23) = 212_3 \text{sinus}, 23 = 10111_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(2x) + 2 \sin(3x)$$

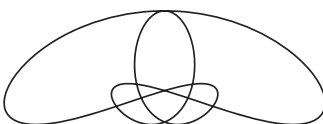
$$Y = \cos(x) + \cos(2x) + \cos(3x) + \cos(5x)$$



$$24_{[2,2,2,3]} = \text{HrFc}(9) = 220_3 \text{sinus}, 9 = 1001_2 \text{sinus}$$

$$X = 2 \sin(2x) + 2 \sin(3x)$$

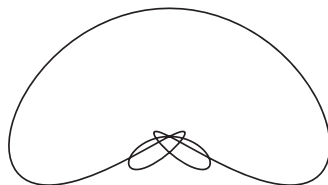
$$Y = \cos(x) + \cos(4x)$$



$$25_{[5,5]} = \text{HrFc}(10) = 221_3 \text{sinus}, 10 = 1010_2 \text{sinus}$$

$$X = \sin(x) + 2 \sin(2x) + 2 \sin(3x)$$

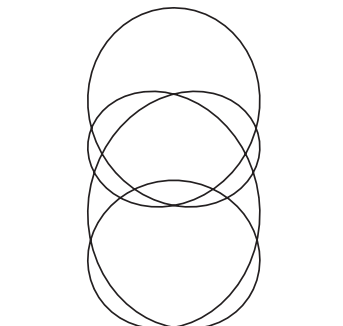
$$Y = \cos(2x) + \cos(4x)$$



$$26_{[2,13]} = \text{HrFc}(15) = 222_3 \text{sinus}, 15 = 1111_2 \text{sinus}$$

$$X = 2 \sin(x) + 2 \sin(2x) + 2 \sin(3x)$$

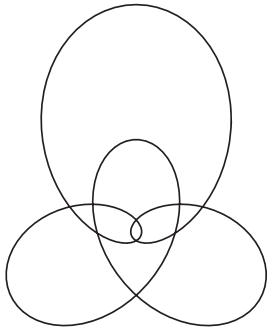
$$Y = \cos(x) + \cos(2x) + \cos(3x) + \cos(4x)$$



$$27_{[3,3,3]} = \text{HrFc}(9) = 1000_3 \text{sinus}, 9 = 1001_2 \text{sinus}$$

$$X = \sin(4x)$$

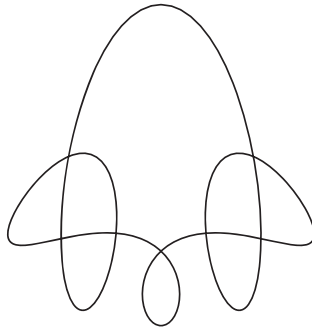
$$Y = \cos(x) + \cos(4x)$$



$$28_{[2, 2, 7]} = \text{HrFc}(11) = 1001_3 \text{sinus}^* 11 = 1011_2 \text{sinus}$$

$$X = \sin(x) + \sin(4x)$$

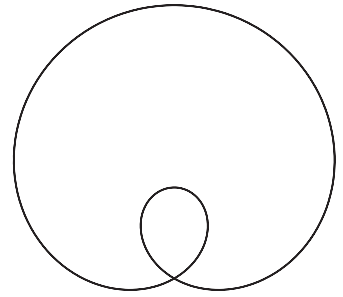
$$Y = \cos(x) + \cos(2x) + \cos(4x)$$



$$29_{[2, 2, 7]} = \text{HrFc}(29) = 1002_3 \text{sinus}^* 29 = 11101_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(4x)$$

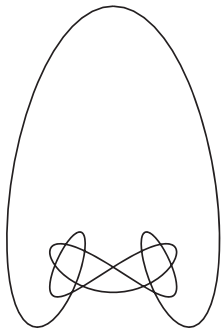
$$Y = \cos(x) + \cos(3x) + \cos(4x) + \cos(5x)$$



$$30_{[2, 3, 5]} = \text{HrFc}(10) = 1010_3 \text{sinus}^* 10 = 1010_2 \text{sinus}$$

$$X = \sin(2x) + \sin(4x)$$

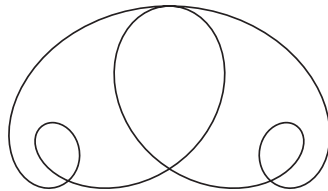
$$Y = \cos(2x) + \cos(4x)$$



$$31_{[3, 1]} = \text{HrFc}(31) = 1011_3 \text{sinus}^* 31 = 11111_2 \text{sinus}$$

$$X = \sin(x) + \sin(2x) + \sin(4x)$$

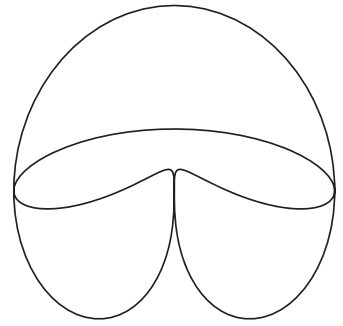
$$Y = \cos(x) + \cos(2x) + \cos(3x) + \cos(4x) + \cos(5x)$$



$$32_{[2, 2, 2, 2, 2]} = \text{HrFc}(10) = 1012_3 \text{sinus}^* 10 = 1010_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(2x) + \sin(4x)$$

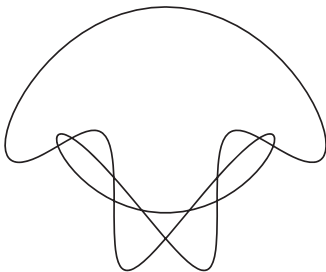
$$Y = \cos(2x) + \cos(4x)$$



$$33_{[3, 1]} = \text{HrFc}(14) = 1020_3 \text{sinus}^* 14 = 1110_2 \text{sinus}$$

$$X = 2 \sin(2x) + \sin(4x)$$

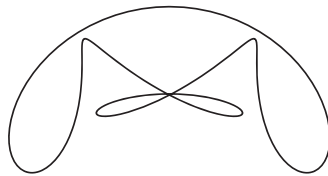
$$Y = \cos(2x) + \cos(3x) + \cos(4x)$$



$$34_{[2, 17]} = \text{HrFc}(19) = 1021_3 \text{sinus}^* 19 = 10011_2 \text{sinus}$$

$$X = \sin(x) + 2 \sin(2x) + \sin(4x)$$

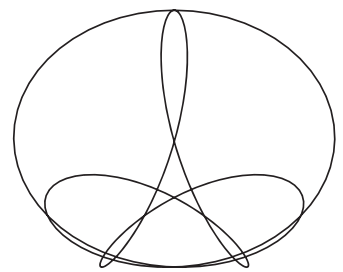
$$Y = \cos(x) + \cos(2x) + \cos(5x)$$



$$35_{[5, 7]} = \text{HrFc}(12) = 1022_3 \text{sinus}^* 12 = 1100_2 \text{sinus}$$

$$X = 2 \sin(x) + 2 \sin(2x) + \sin(4x)$$

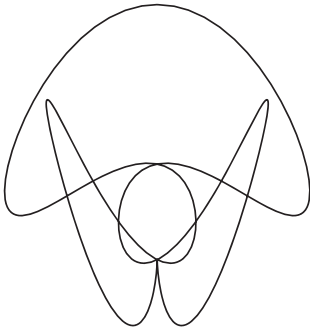
$$Y = \cos(3x) + \cos(4x)$$



$$36_{[2, 2, 3, 3]} = \text{HrFc}(10) = 1100_3 \text{sinus}^* 10 = 1010_2 \text{sinus}$$

$$X = \sin(3x) + \sin(4x)$$

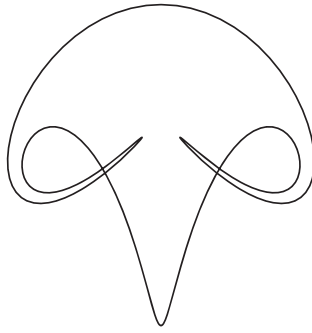
$$Y = \cos(2x) + \cos(4x)$$



$$37_{[157]=HeFc(37)} = 1101_3 \text{sinus}^* 37 = 100101_2 \text{sinus}$$

$$X = \sin(x) + \sin(3x) + \sin(4x)$$

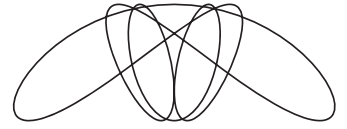
$$Y = \cos(x) + \cos(3x) + \cos(6x)$$



$$38_{[12,19]=HeFc(21)} = 1102_3 \text{sinus}^* 21 = 10101_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(3x) + \sin(4x)$$

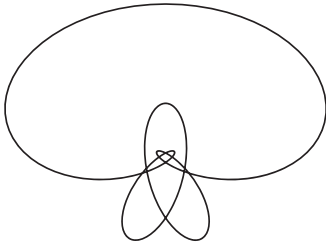
$$Y = \cos(x) + \cos(3x) + \cos(5x)$$



$$39_{[13,13]=HeFc(16)} = 1110_3 \text{sinus}^* 16 = 10000_2 \text{sinus}$$

$$X = \sin(2x) + \sin(3x) + \sin(4x)$$

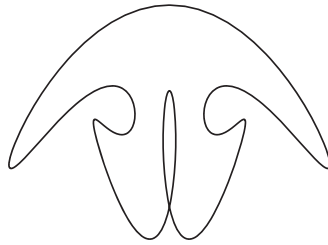
$$Y = \cos(5x)$$



$$40_{[2,2,2,5]=HeFc(11)} = 1111_3 \text{sinus}^* 11 = 1011_2 \text{sinus}$$

$$X = \sin(x) + \sin(2x) + \sin(3x) + \sin(4x)$$

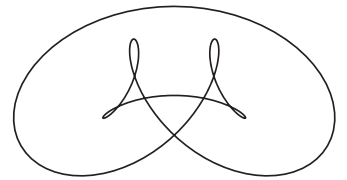
$$Y = \cos(x) + \cos(2x) + \cos(4x)$$



$$41_{[141]=HeFc(41)} = 1112_3 \text{sinus}^* 41 = 101001_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(2x) + \sin(3x) + \sin(4x)$$

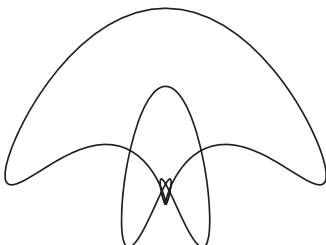
$$Y = \cos(x) + \cos(4x) + \cos(6x)$$



$$42_{[2,3,7]=HeFc(12)} = 1120_3 \text{sinus}^* 12 = 1100_2 \text{sinus}$$

$$X = 2 \sin(2x) + \sin(3x) + \sin(4x)$$

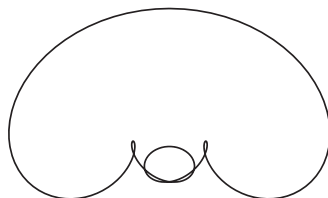
$$Y = \cos(3x) + \cos(4x)$$



$$43_{[143]=HeFc(43)} = 1121_3 \text{sinus}^* 43 = 101011_2 \text{sinus}$$

$$X = \sin(x) + 2 \sin(2x) + \sin(3x) + \sin(4x)$$

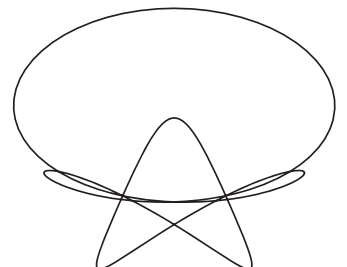
$$Y = \cos(x) + \cos(2x) + \cos(4x) + \cos(6x)$$



$$44_{[12,2,11]=HeFc(15)} = 1122_3 \text{sinus}^* 15 = 1111_2 \text{sinus}$$

$$X = 2 \sin(x) + 2 \sin(2x) + \sin(3x) + \sin(4x)$$

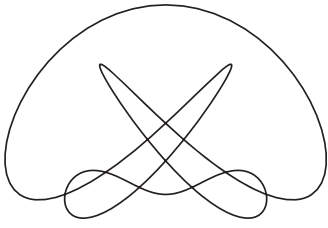
$$Y = \cos(x) + \cos(2x) + \cos(3x) + \cos(4x)$$



$$45_{[13,3,5]=HeFc(11)} = 1200_3 \text{sinus}^* 11 = 1011_2 \text{sinus}$$

$$X = 2 \sin(3x) + \sin(4x)$$

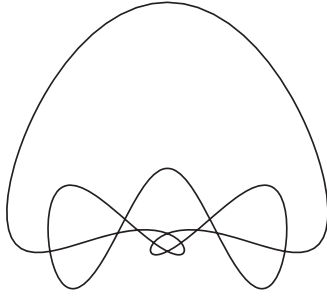
$$Y = \cos(x) + \cos(2x) + \cos(4x)$$



$$46_{([2, 23] = \text{HeFe}(25))} = 1201_3 \text{sinus}^2 25 = 11001_2 \text{sinus}$$

$$X = \sin(x) + 2 \sin(3x) + \sin(4x)$$

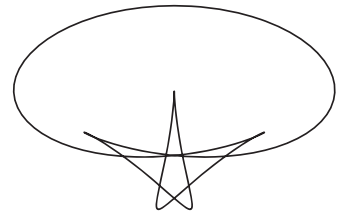
$$Y = \cos(x) + \cos(4x) + \cos(5x)$$



$$47_{([147] = \text{HeFe}(47))} = 1202_3 \text{sinus}^2 47 = 10111_2 \text{sinus}$$

$$X = 2 \sin(x) + 2 \sin(3x) + \sin(4x)$$

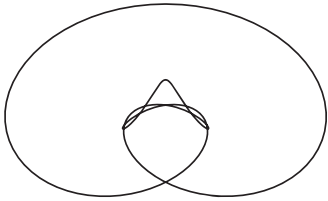
$$Y = \cos(x) + \cos(2x) + \cos(3x) + \cos(4x) + \cos(6x)$$



$$48_{([2, 2, 2, 2, 3] = \text{HeFe}(11))} = 1210_3 \text{sinus}^2 11 = 1011_2 \text{sinus}$$

$$X = \sin(2x) + 2 \sin(3x) + \sin(4x)$$

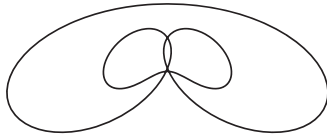
$$Y = \cos(x) + \cos(2x) + \cos(4x)$$



$$49_{([7, 7] = \text{HeFe}(14))} = 1211_3 \text{sinus}^2 14 = 1110_2 \text{sinus}$$

$$X = \sin(x) + \sin(2x) + 2 \sin(3x) + \sin(4x)$$

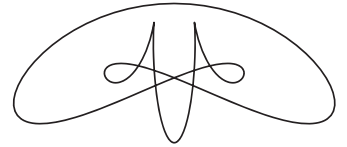
$$Y = \cos(2x) + \cos(3x) + \cos(4x)$$



$$50_{([2, 5, 5] = \text{HeFe}(12))} = 1212_3 \text{sinus}^2 12 = 1100_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(2x) + 2 \sin(3x) + \sin(4x)$$

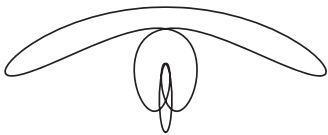
$$Y = \cos(3x) + \cos(4x)$$



$$51_{([3, 17] = \text{HeFe}(20))} = 1220_3 \text{sinus}^2 20 = 10100_2 \text{sinus}$$

$$X = 2 \sin(2x) + 2 \sin(3x) + \sin(4x)$$

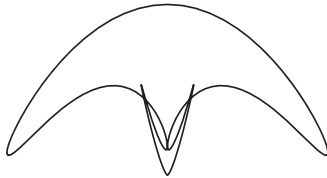
$$Y = \cos(3x) + \cos(5x)$$



$$52_{([2, 2, 13] = \text{HeFe}(17))} = 1221_3 \text{sinus}^2 17 = 10001_2 \text{sinus}$$

$$X = \sin(x) + 2 \sin(2x) + 2 \sin(3x) + \sin(4x)$$

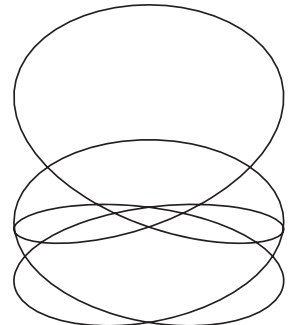
$$Y = \cos(x) + \cos(5x)$$



$$53_{([53] = \text{HeFe}(53))} = 1222_3 \text{sinus}^2 53 = 110101_2 \text{sinus}$$

$$X = 2 \sin(x) + 2 \sin(2x) + 2 \sin(3x) + \sin(4x)$$

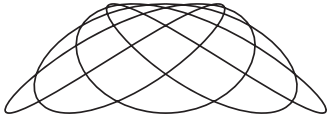
$$Y = \cos(x) + \cos(3x) + \cos(5x) + \cos(6x)$$



$$54_{([2, 3, 3, 3] = \text{HeFe}(11))} = 2000_3 \text{sinus}^2 11 = 1011_2 \text{sinus}$$

$$X = 2 \sin(4x)$$

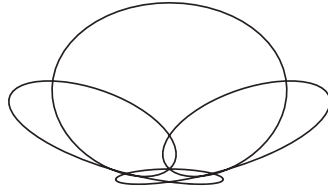
$$Y = \cos(x) + \cos(2x) + \cos(4x)$$



$$55_{[(5,11)=HF(16)]} = 2001_3 \text{sinus}^3 - 16 = 10000_2 \text{sinus}$$

$$X = \sin(x) + 2 \sin(4x)$$

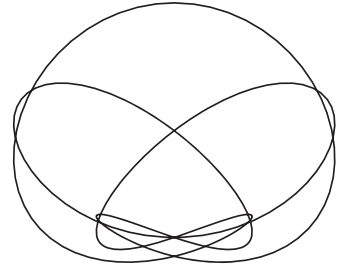
$$Y = \cos(5x)$$



$$56_{[(2,2,2,7)=HF(13)]} = 2002_3 \text{sinus}^3 - 13 = 1101_2 \text{sinus}$$

$$X = 2 \sin(x) + 2 \sin(4x)$$

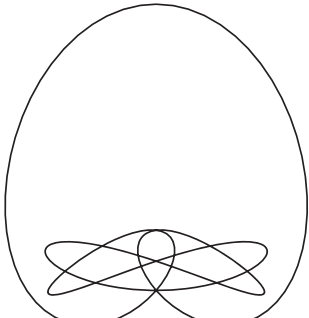
$$Y = \cos(x) + \cos(3x) + \cos(4x)$$



$$57_{[(3,19)=HF(22)]} = 2010_3 \text{sinus}^3 - 22 = 10110_2 \text{sinus}$$

$$X = \sin(2x) + 2 \sin(4x)$$

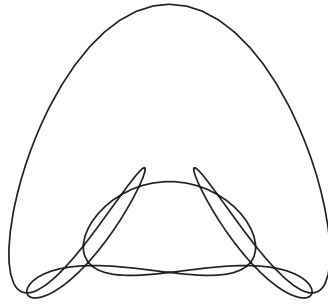
$$Y = \cos(2x) + \cos(3x) + \cos(5x)$$



$$58_{[(2,29)=HF(31)]} = 2011_3 \text{sinus}^3 - 31 = 11111_2 \text{sinus}$$

$$X = \sin(x) + \sin(2x) + 2 \sin(4x)$$

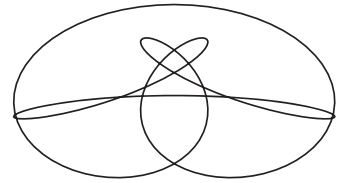
$$Y = \cos(x) + \cos(2x) + \cos(3x) + \cos(4x) + \cos(5x)$$



$$59_{[(59)=HF(59)]} = 2012_3 \text{sinus}^3 - 59 = 111011_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(2x) + 2 \sin(4x)$$

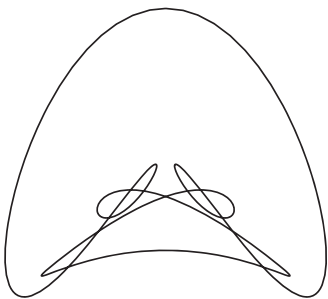
$$Y = \cos(x) + \cos(2x) + \cos(4x) + \cos(5x) + \cos(6x)$$



$$60_{[(2,3,5)=HF(12)]} = 2020_3 \text{sinus}^3 - 12 = 1100_2 \text{sinus}$$

$$X = 2 \sin(2x) + 2 \sin(4x)$$

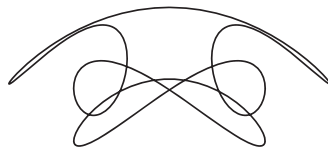
$$Y = \cos(3x) + \cos(4x)$$



$$61_{[(6)=HF(6)]} = 2021_3 \text{sinus}^3 - 61 = 111101_2 \text{sinus}$$

$$X = \sin(x) + 2 \sin(2x) + 2 \sin(4x)$$

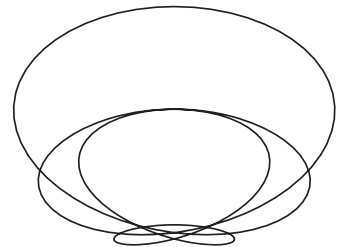
$$Y = \cos(x) + \cos(3x) + \cos(4x) + \cos(5x) + \cos(6x)$$



$$62_{[(2,31)=HF(33)]} = 2022_3 \text{sinus}^3 - 33 = 100001_2 \text{sinus}$$

$$X = 2 \sin(x) + 2 \sin(2x) + 2 \sin(4x)$$

$$Y = \cos(x) + \cos(6x)$$

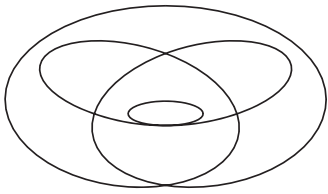


$$63_{[(3,3,7)=HF(13)]} = 2100_3 \text{sinus}^3 - 13 = 1101_2 \text{sinus}$$

$$X = \sin(3x) + 2 \sin(4x)$$

$$Y = \cos(x) + \cos(3x) + \cos(4x)$$

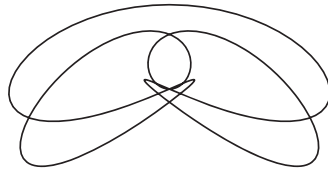




$$64_{[2, 2, 2, 2, 2, 2]} = \text{HeFc}(12) = 2101_3 \text{sinus}^* 12 = 1100_2 \text{sinus}$$

$$X = \sin(x) + \sin(3x) + 2 \sin(4x)$$

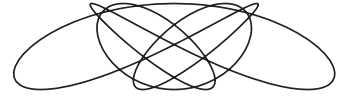
$$Y = \cos(3x) + \cos(4x)$$



$$65_{[15, 13]} = \text{HeFc}(18) = 2102_3 \text{sinus}^* 18 = 10010_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(3x) + 2 \sin(4x)$$

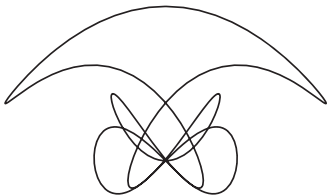
$$Y = \cos(2x) + \cos(5x)$$



$$66_{[2, 3, 11]} = \text{HeFc}(16) = 2110_3 \text{sinus}^* 16 = 10000_2 \text{sinus}$$

$$X = \sin(2x) + \sin(3x) + 2 \sin(4x)$$

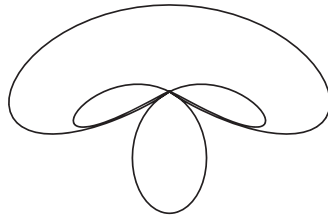
$$Y = \cos(5x)$$



$$67_{[167]} = \text{HeFc}(67) = 2111_3 \text{sinus}^* 67 = 1000011_2 \text{sinus}$$

$$X = \sin(x) + \sin(2x) + \sin(3x) + 2 \sin(4x)$$

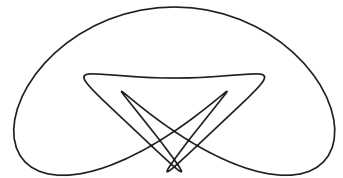
$$Y = \cos(x) + \cos(2x) + \cos(7x)$$



$$68_{[2, 2, 17]} = \text{HeFc}(21) = 2112_3 \text{sinus}^* 21 = 10101_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(2x) + \sin(3x) + 2 \sin(4x)$$

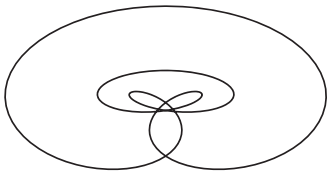
$$Y = \cos(x) + \cos(3x) + \cos(5x)$$



$$69_{[13, 23]} = \text{HeFc}(26) = 2120_3 \text{sinus}^* 26 = 11010_2 \text{sinus}$$

$$X = 2 \sin(2x) + \sin(3x) + 2 \sin(4x)$$

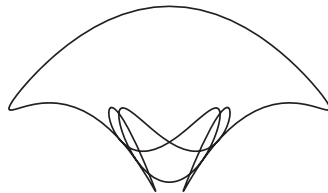
$$Y = \cos(2x) + \cos(4x) + \cos(5x)$$



$$70_{[2, 5, 7]} = \text{HeFc}(14) = 2121_3 \text{sinus}^* 14 = 1110_2 \text{sinus}$$

$$X = \sin(x) + 2 \sin(2x) + \sin(3x) + 2 \sin(4x)$$

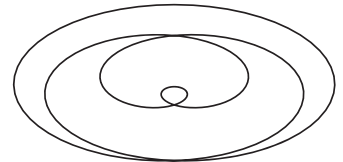
$$Y = \cos(2x) + \cos(3x) + \cos(4x)$$



$$71_{[171]} = \text{HeFc}(71) = 2122_3 \text{sinus}^* 71 = 100011_2 \text{sinus}$$

$$X = 2 \sin(x) + 2 \sin(2x) + \sin(3x) + 2 \sin(4x)$$

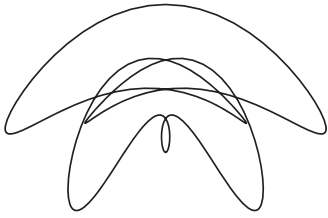
$$Y = \cos(x) + \cos(2x) + \cos(3x) + \cos(7x)$$



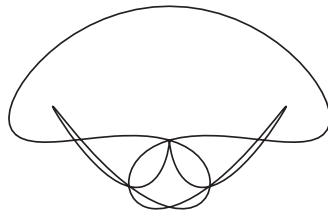
$$72_{[2, 2, 2, 3, 3]} = \text{HeFc}(12) = 2200_3 \text{sinus}^* 12 = 1100_2 \text{sinus}$$

$$X = 2 \sin(3x) + 2 \sin(4x)$$

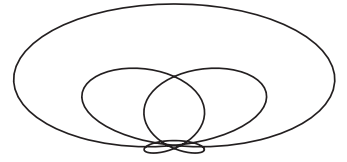
$$Y = \cos(3x) + \cos(4x)$$



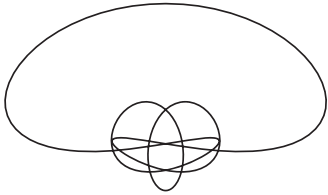
$$73 \text{ } \left[ \begin{matrix} 173 \\ 173 \end{matrix} \right] = \text{HeFco}(73) = 2201_3 \text{ sinus}^2 - 73 = 1001001_2 \text{ sinus} \\ X = \sin(x) + 2 \sin(3x) + 2 \sin(4x) \\ Y = \cos(x) + \cos(4x) + \cos(7x)$$



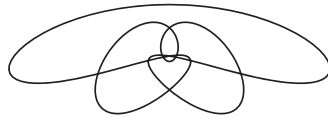
$$74 \text{ } \left[ \begin{matrix} 2, 37 \\ 2, 37 \end{matrix} \right] = \text{HeFco}(39) = 2202_2 \text{ sinus}^2 - 39 = 100111_2 \text{ sinus} \\ X = 2 \sin(x) + 2 \sin(3x) + 2 \sin(4x) \\ Y = \cos(x) + \cos(2x) + \cos(3x) + \cos(6x)$$



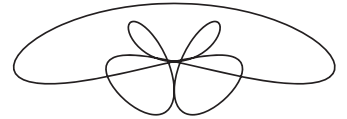
$$75 \text{ } \left[ \begin{matrix} 13, 5 \\ 13, 5 \end{matrix} \right] = \text{HeFco}(13) = 2210_3 \text{ sinus}^2 - 13 = 1101_2 \text{ sinus} \\ X = \sin(2x) + 2 \sin(3x) + 2 \sin(4x) \\ Y = \cos(x) + \cos(3x) + \cos(4x)$$



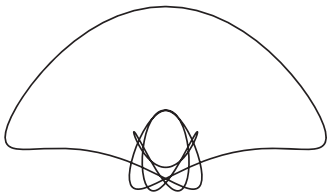
$$76 \text{ } \left[ \begin{matrix} 2, 2, 19 \\ 2, 2, 19 \end{matrix} \right] = \text{HeFco}(23) = 2211_3 \text{ sinus}^2 - 23 = 10111_2 \text{ sinus} \\ X = \sin(x) + \sin(2x) + 2 \sin(3x) + 2 \sin(4x) \\ Y = \cos(x) + \cos(2x) + \cos(3x) + \cos(5x)$$



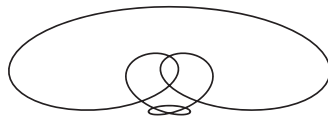
$$77 \text{ } \left[ \begin{matrix} 17, 11 \\ 17, 11 \end{matrix} \right] = \text{HeFco}(18) = 2212_4 \text{ sinus}^2 - 18 = 10010_2 \text{ sinus} \\ X = 2 \sin(x) + \sin(2x) + 2 \sin(3x) + 2 \sin(4x) \\ Y = \cos(2x) + \cos(5x)$$



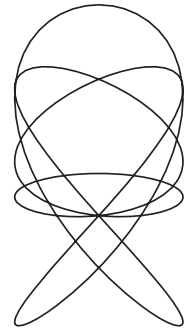
$$78 \text{ } \left[ \begin{matrix} 2, 3, 13 \\ 2, 3, 13 \end{matrix} \right] = \text{HeFco}(18) = 2220_3 \text{ sinus}^2 - 18 = 10010_2 \text{ sinus} \\ X = 2 \sin(2x) + 2 \sin(3x) + 2 \sin(4x) \\ Y = \cos(2x) + \cos(5x)$$



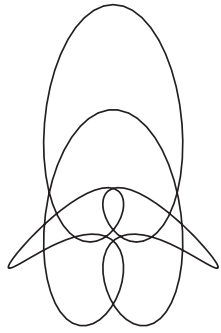
$$79 \text{ } \left[ \begin{matrix} 179 \\ 179 \end{matrix} \right] = \text{HeFco}(79) = 2221_3 \text{ sinus}^2 - 79 = 100111_2 \text{ sinus} \\ X = \sin(x) + 2 \sin(2x) + 2 \sin(3x) + 2 \sin(4x) \\ Y = \cos(x) + \cos(2x) + \cos(3x) + \cos(4x) + \cos(7x)$$



$$80 \text{ } \left[ \begin{matrix} 2, 2, 2, 2, 5 \\ 2, 2, 2, 2, 5 \end{matrix} \right] = \text{HeFco}(13) = 2222_5 \text{ sinus}^2 - 13 = 1101_2 \text{ sinus} \\ X = 2 \sin(x) + 2 \sin(2x) + 2 \sin(3x) + 2 \sin(4x) \\ Y = \cos(x) + \cos(3x) + \cos(4x)$$



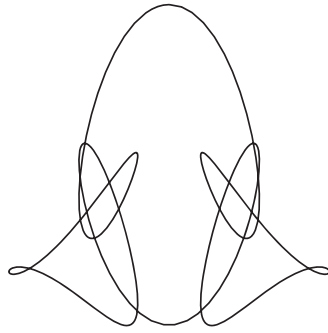
$$81 \text{ } \left[ \begin{matrix} 13, 3, 3, 3 \\ 13, 3, 3, 3 \end{matrix} \right] = \text{HeFco}(12) = 10000_3 \text{ sinus}^2 - 12 = 1100_2 \text{ sinus} \\ X = \sin(5x) \\ Y = \cos(3x) + \cos(4x)$$



$$82_{[2, 4]} = \text{HrFc}(43) = 10001_3 \text{sinus}, 43 = 101011_2 \text{sinus}$$

$$X = \sin(x) + \sin(5x)$$

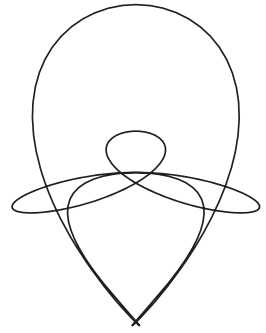
$$Y = \cos(x) + \cos(2x) + \cos(4x) + \cos(6x)$$



$$83_{[83]} = \text{HrFc}(83) = 10002_3 \text{sinus}, 83 = 1010011_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(5x)$$

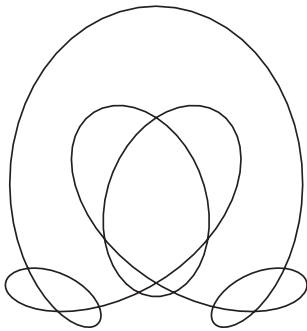
$$Y = \cos(x) + \cos(2x) + \cos(5x) + \cos(7x)$$



$$84_{[2, 2, 3, 7]} = \text{HrFc}(14) = 10010_3 \text{sinus}, 14 = 1110_2 \text{sinus}$$

$$X = \sin(2x) + \sin(5x)$$

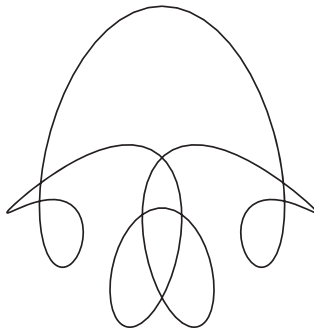
$$Y = \cos(2x) + \cos(3x) + \cos(4x)$$



$$85_{[5, 17]} = \text{HrFc}(22) = 10011_3 \text{sinus}, 22 = 10110_2 \text{sinus}$$

$$X = \sin(x) + \sin(2x) + \sin(5x)$$

$$Y = \cos(2x) + \cos(3x) + \cos(5x)$$



$$86_{[2, 43]} = \text{HrFc}(45) = 10012_3 \text{sinus}, 45 = 101101_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(2x) + \sin(5x)$$

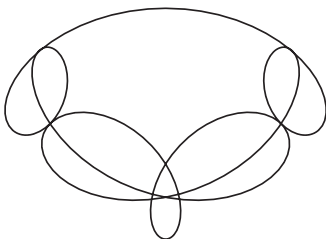
$$Y = \cos(x) + \cos(3x) + \cos(4x) + \cos(6x)$$



$$87_{[3, 29]} = \text{HrFc}(52) = 10020_3 \text{sinus}, 32 = 100000_2 \text{sinus}$$

$$X = 2 \sin(2x) + \sin(5x)$$

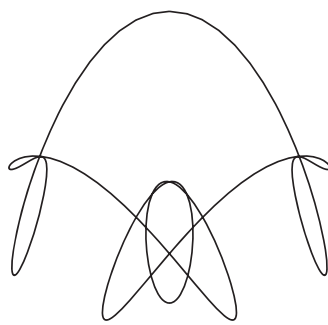
$$Y = \cos(6x)$$



$$88_{[2, 2, 2, 11]} = \text{HrFc}(17) = 10021_3 \text{sinus}, 17 = 10001_2 \text{sinus}$$

$$X = \sin(x) + 2 \sin(2x) + \sin(5x)$$

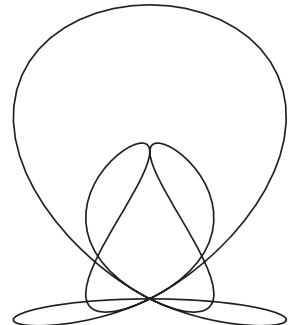
$$Y = \cos(x) + \cos(5x)$$



$$89_{[189]} = \text{HrFc}(89) = 10022_3 \text{sinus}, 89 = 1011001_2 \text{sinus}$$

$$X = 2 \sin(x) + 2 \sin(2x) + \sin(5x)$$

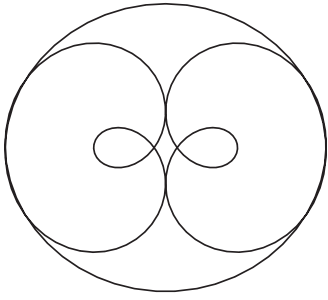
$$Y = \cos(x) + \cos(4x) + \cos(5x) + \cos(7x)$$



$$90_{[2, 3, 3, 5]} = \text{HrFc}(13) = 10100_3 \text{sinus}, 13 = 1101_2 \text{sinus}$$

$$X = \sin(3x) + \sin(5x)$$

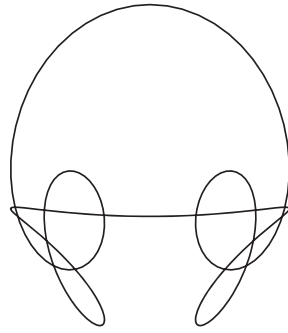
$$Y = \cos(x) + \cos(3x) + \cos(4x)$$



$$91_{[17, 13]} = \text{HrFc}(20) = 10101_3 \text{sinus}^2 20 = 10100_2 \text{sinus}$$

$$X = \sin(x) + \sin(3x) + \sin(5x)$$

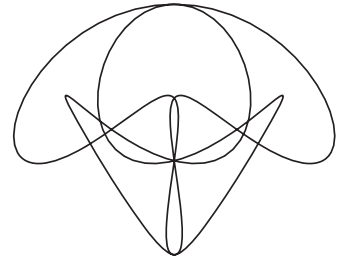
$$Y = \cos(3x) + \cos(5x)$$



$$92_{[2, 2, 23]} = \text{HrFc}(27) = 10102_3 \text{sinus}^2 27 = 11011_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(3x) + \sin(5x)$$

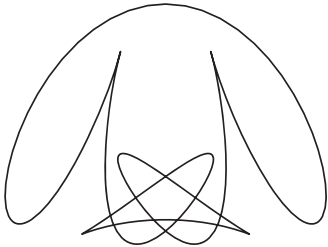
$$Y = \cos(x) + \cos(2x) + \cos(4x) + \cos(5x)$$



$$93_{[3, 31]} = \text{HrFc}(34) = 10110_3 \text{sinus}^2 34 = 100010_2 \text{sinus}$$

$$X = \sin(2x) + \sin(3x) + \sin(5x)$$

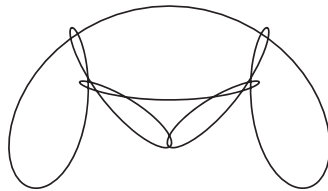
$$Y = \cos(2x) + \cos(6x)$$



$$94_{[2, 47]} = \text{HrFc}(49) = 10111_3 \text{sinus}^2 49 = 110001_2 \text{sinus}$$

$$X = \sin(x) + \sin(2x) + \sin(3x) + \sin(5x)$$

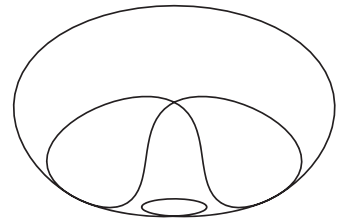
$$Y = \cos(x) + \cos(5x) + \cos(6x)$$



$$95_{[5, 19]} = \text{HrFc}(24) = 10112_3 \text{sinus}^2 24 = 11000_2 \text{sinus}$$

$$X = 2 \sin(x) + \sin(2x) + \sin(3x) + \sin(5x)$$

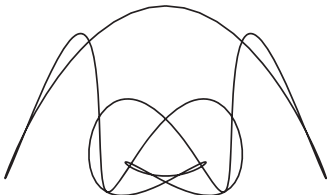
$$Y = \cos(4x) + \cos(5x)$$



$$96_{[2, 2, 2, 2, 3]} = \text{HrFc}(13) = 10120_3 \text{sinus}^2 13 = 1101_2 \text{sinus}$$

$$X = 2 \sin(2x) + \sin(3x) + \sin(5x)$$

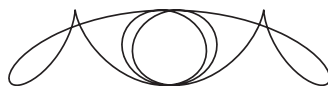
$$Y = \cos(x) + \cos(3x) + \cos(4x)$$



$$97_{[197]} = \text{HrFc}(97) = 10121_3 \text{sinus}^2 97 = 1100001_2 \text{sinus}$$

$$X = \sin(x) + 2 \sin(2x) + \sin(3x) + \sin(5x)$$

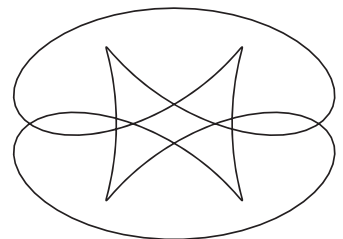
$$Y = \cos(x) + \cos(6x) + \cos(7x)$$



$$98_{[2, 7, 7]} = \text{HrFc}(16) = 10122_3 \text{sinus}^2 16 = 10000_2 \text{sinus}$$

$$X = 2 \sin(x) + 2 \sin(2x) + \sin(3x) + \sin(5x)$$

$$Y = \cos(5x)$$



$$99_{[3, 3, 11]} = \text{HrFc}(17) = 10200_3 \text{sinus}^2 17 = 10001_2 \text{sinus}$$

$$X = 2 \sin(3x) + \sin(5x)$$

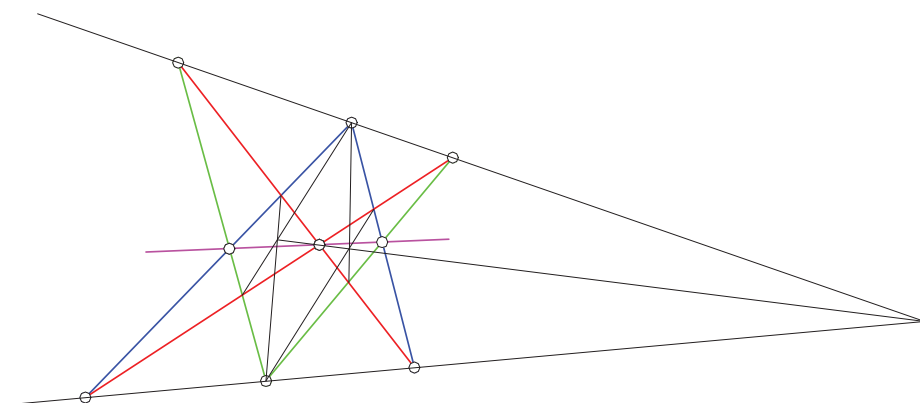
$$Y = \cos(x) + \cos(5x)$$

蛭子井博孝

# 幾何数学創書

あるところにはある構図の不思議

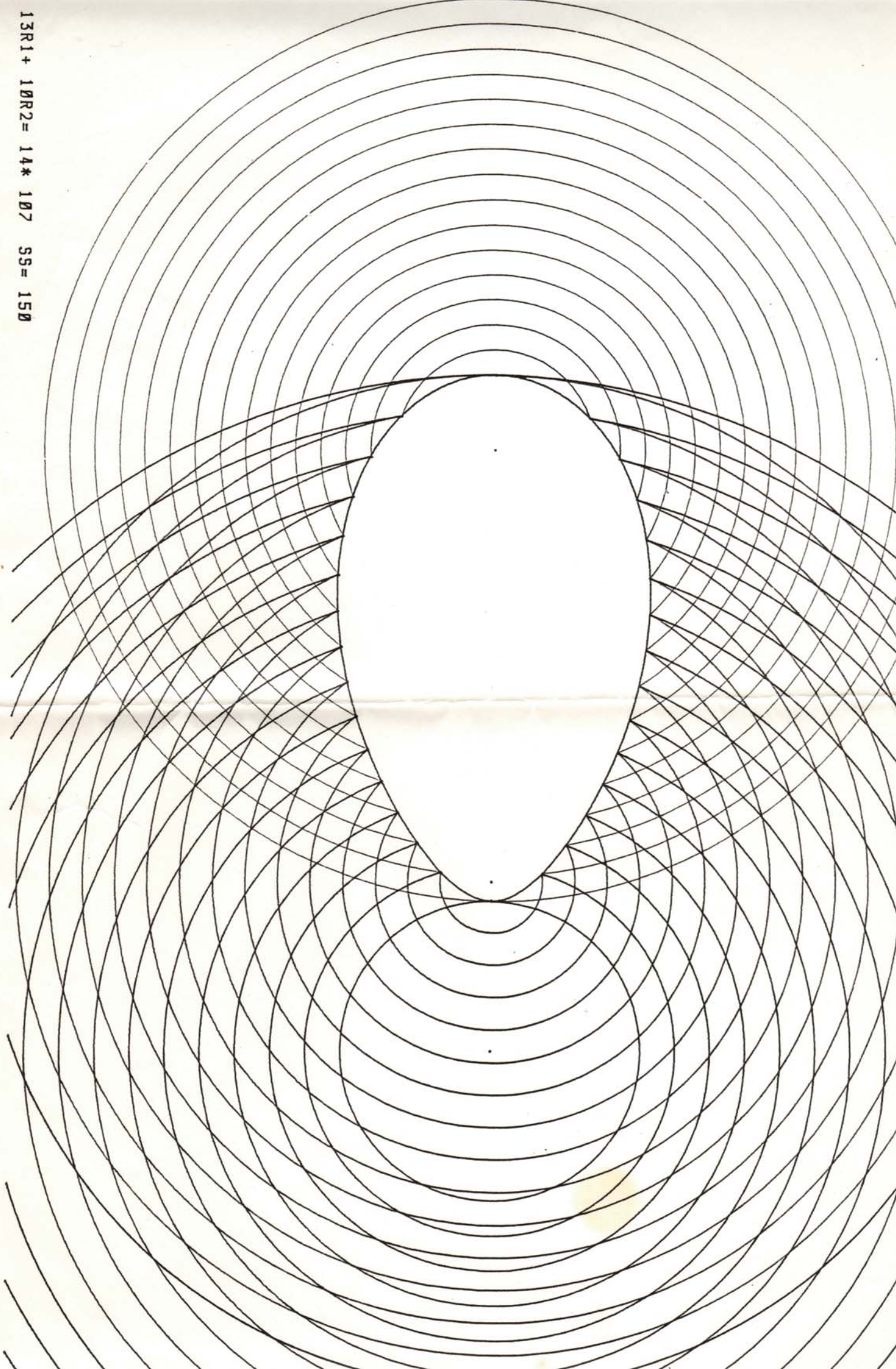
パップスの定理の系



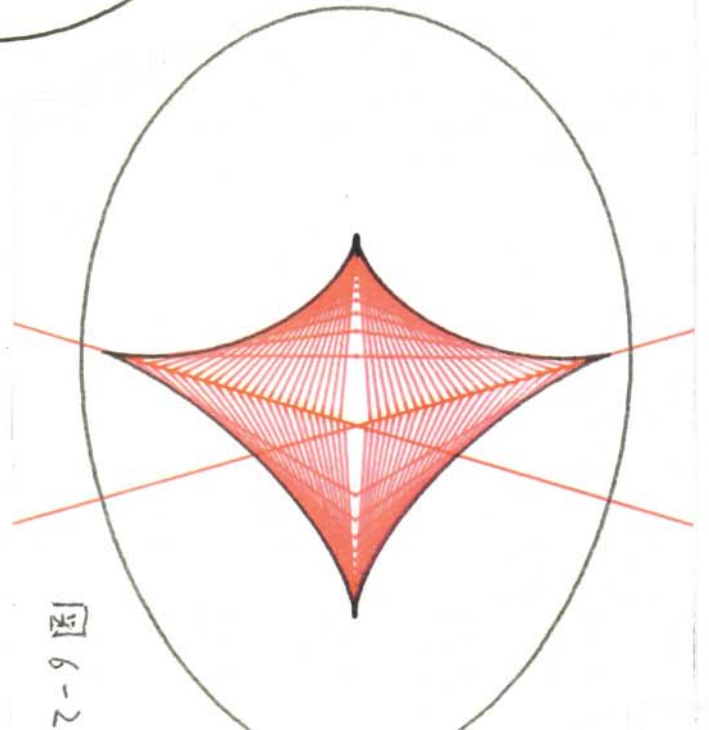
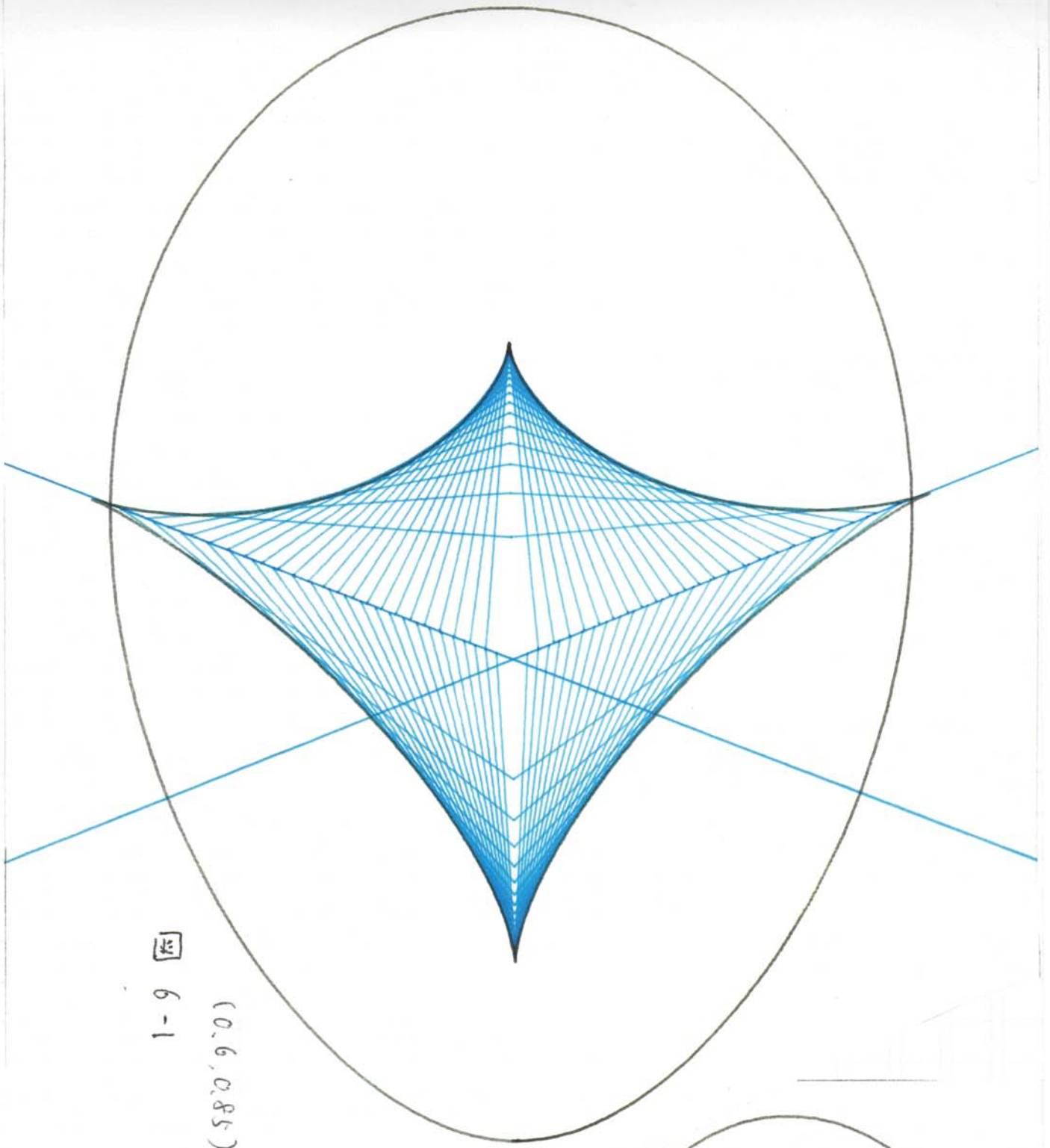
さみしさや 僕を知らない 幾何学者

WATANABE INSTRUMENTS CORP.

13R1+ 10R2= 14\* 107 SS= 150



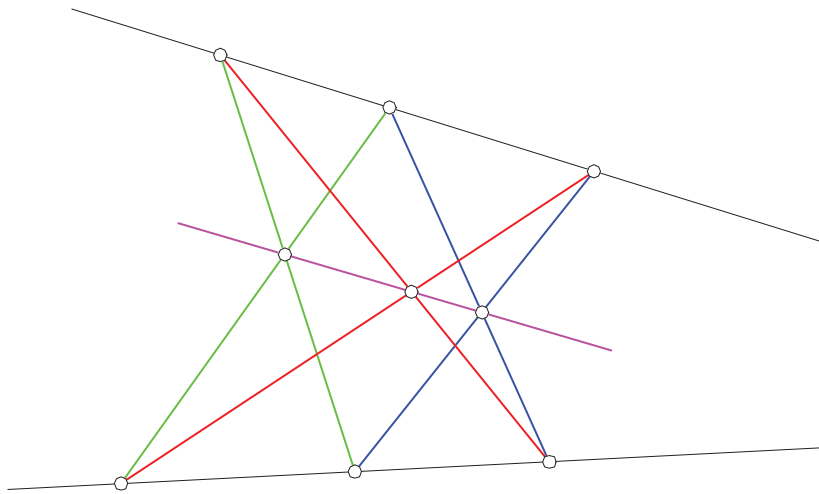




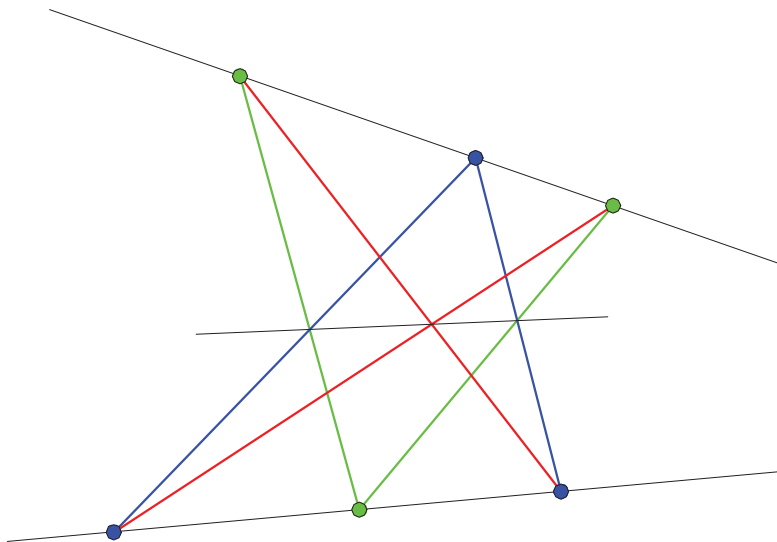
# パップスの定理

by 蛭子井博孝

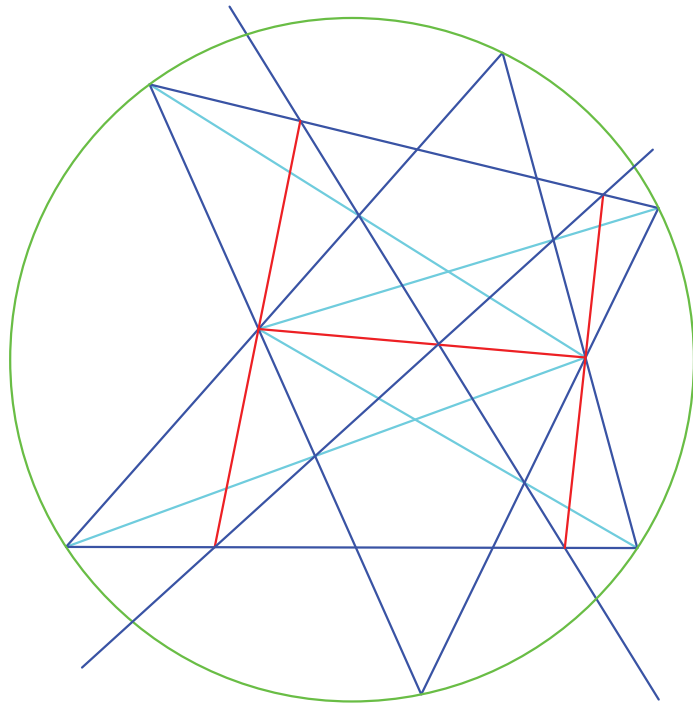
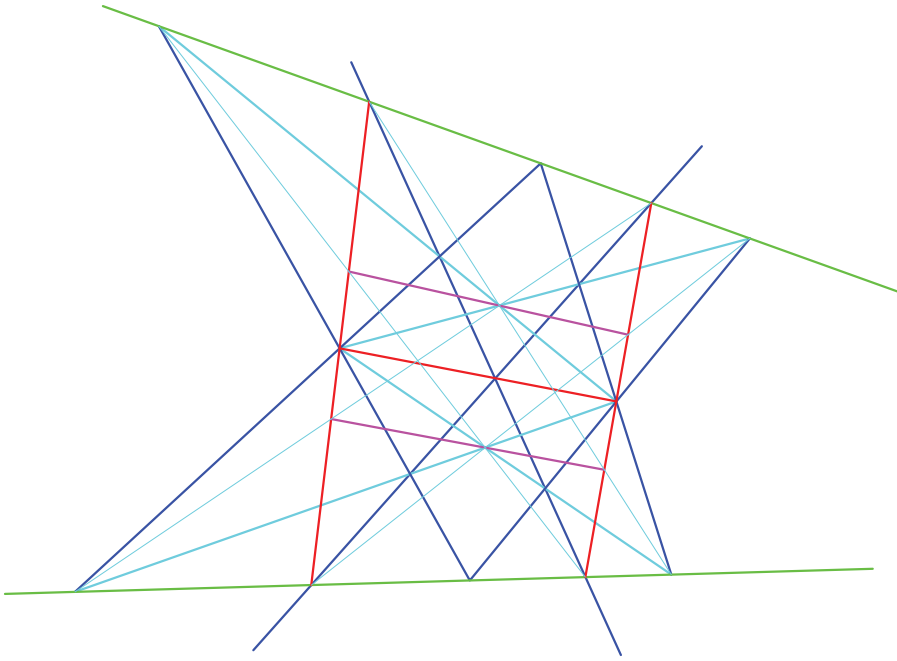
定理の覚え方： 2直線上に3点3点を取り、  
3×(ばつ)の3点が一直線上にあるという、共線定理



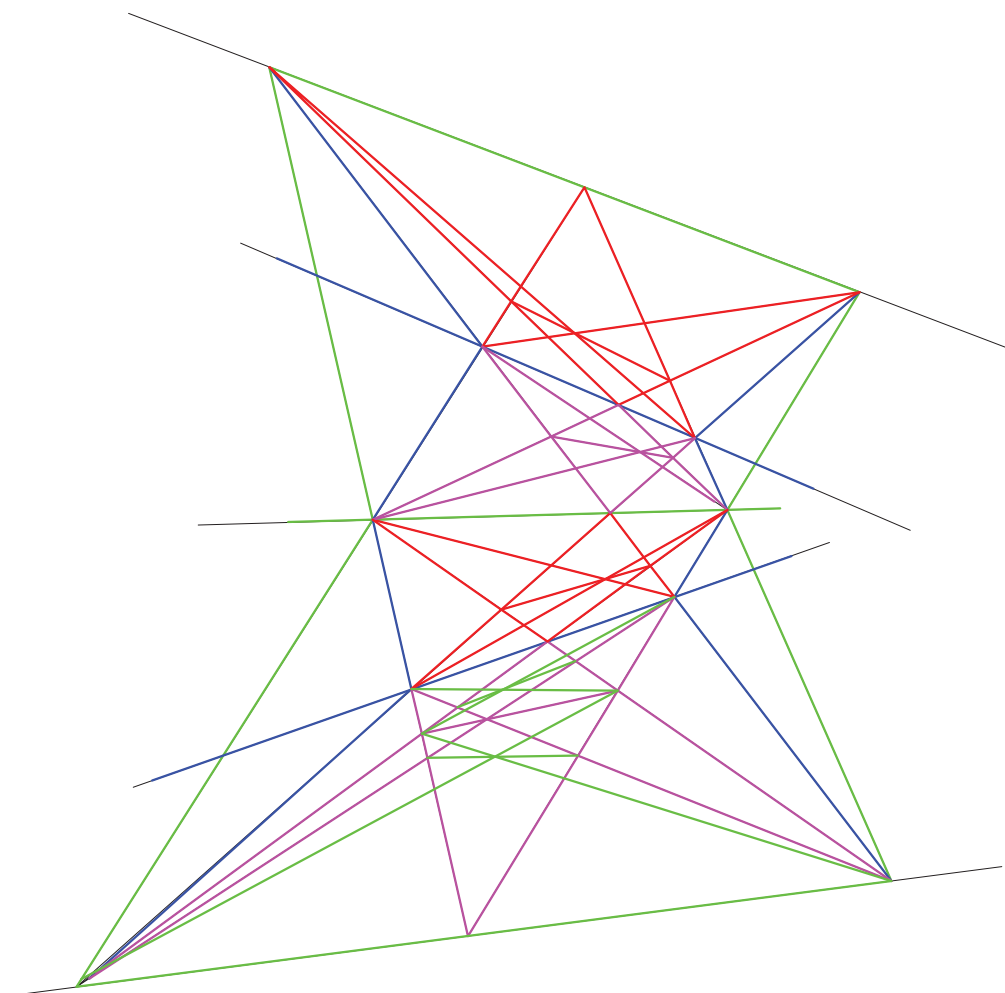
書き方：2直線上に3点3点を取り、Vと逆Vを重ねて×をする





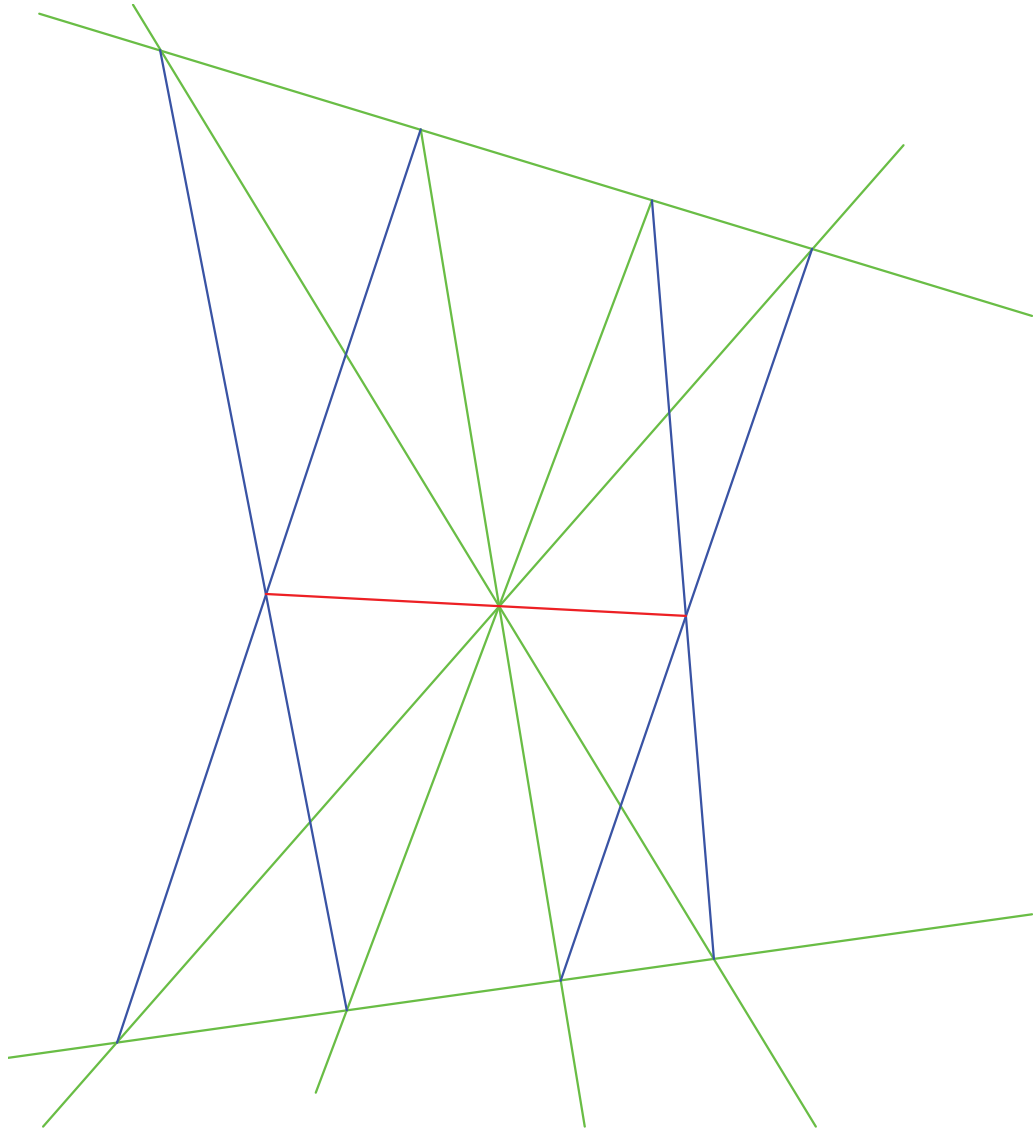


発展定理1 パップス (フラクタル) 連鎖定理

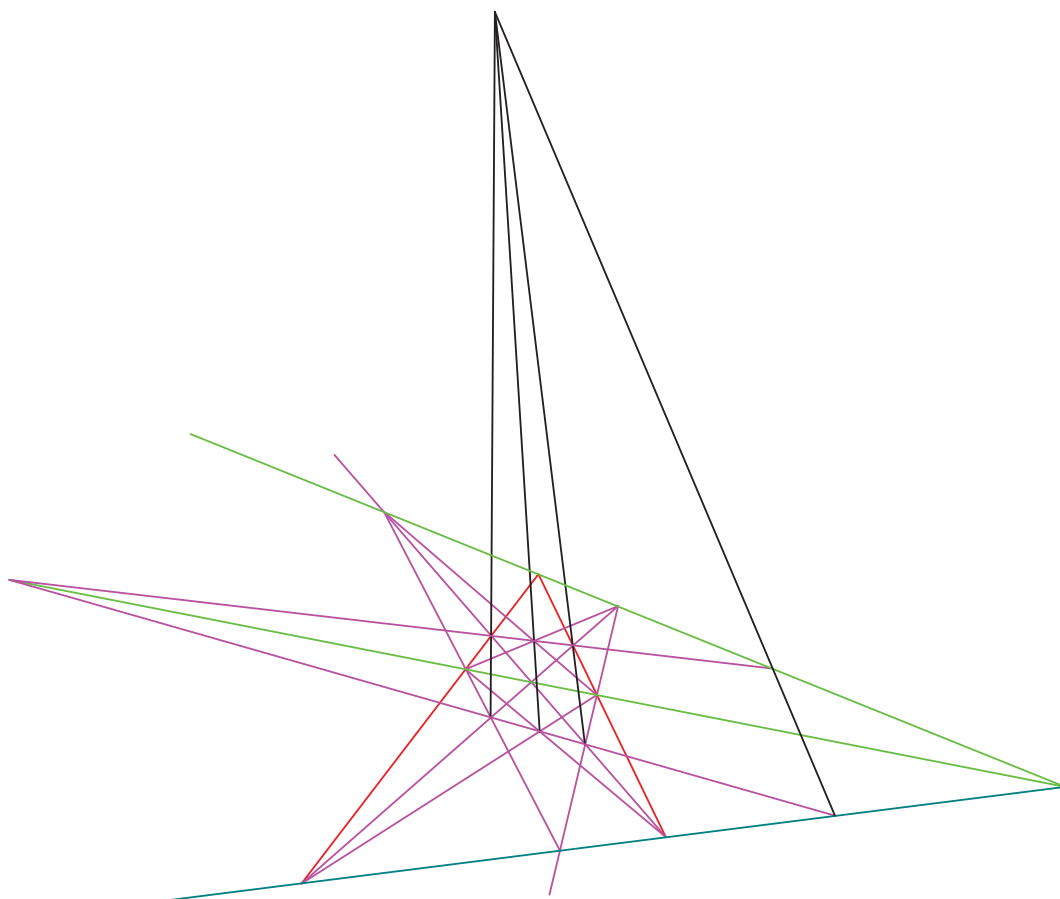


拡張定理 1

4点エビスイ定理



発展2 蛭子井-Papus-Papus 定理



# Ebisui-Papus-Papus Theorem

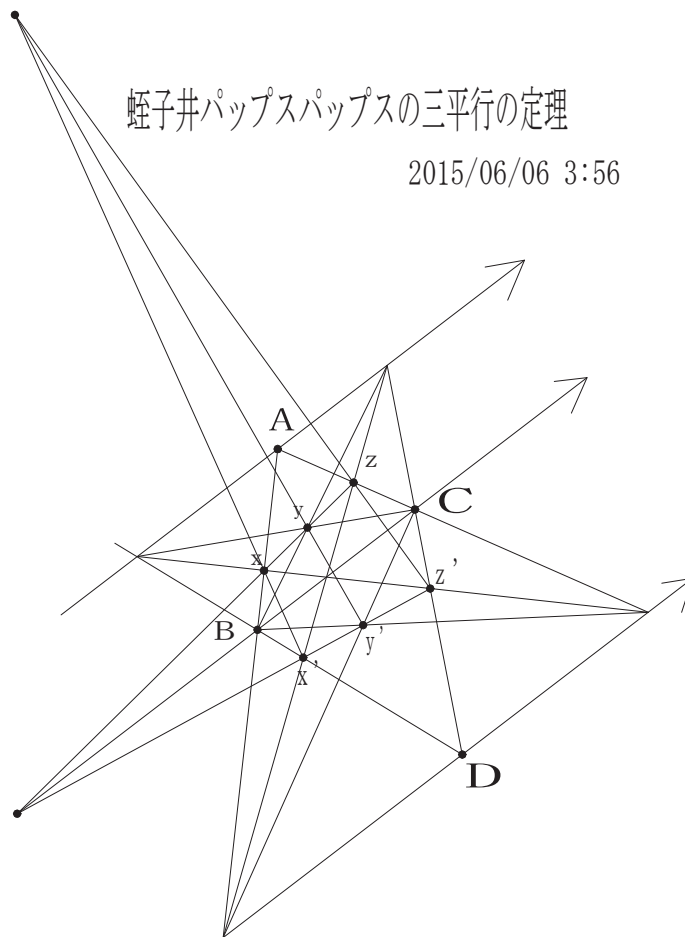
Hiroataka Ebisui

Oval Research Center

Abstract: Papus Theorem is very famous in Geometry History. About this theorem, We hit to The Two USE of Papus Theorems. And, We found Following Theorem. In This Theorem, First of all We fix 3 paralell Lines. and draw two papus structures like following figure. In this composition A, B, C, D are given on 3 Paralell lines and use these 4 points to construct papus Theorem then, line  $xx',yy',zz'$  are concurrent and  $xyz, x'y'z', BC$  are concurrent.

We call This as Ebisui-Papus-Papus Theorem.

We give the enjoy of proof to all. Thank you for your sharing of this theorem.



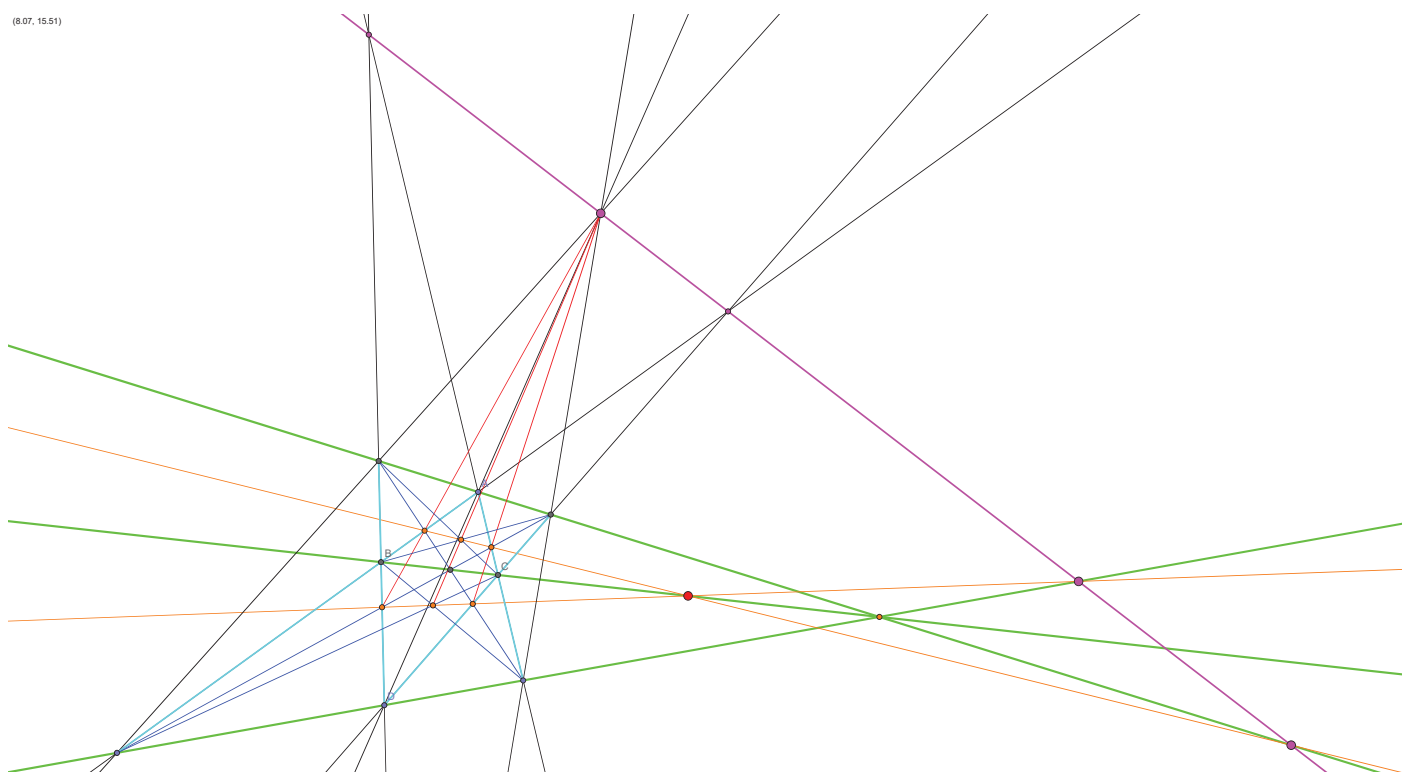
Reference Kentaro Yano "幾何の有名な定理"; Kyoritu,2005

# Ebisui-Papus-Papus Theorem

蛭子井博孝

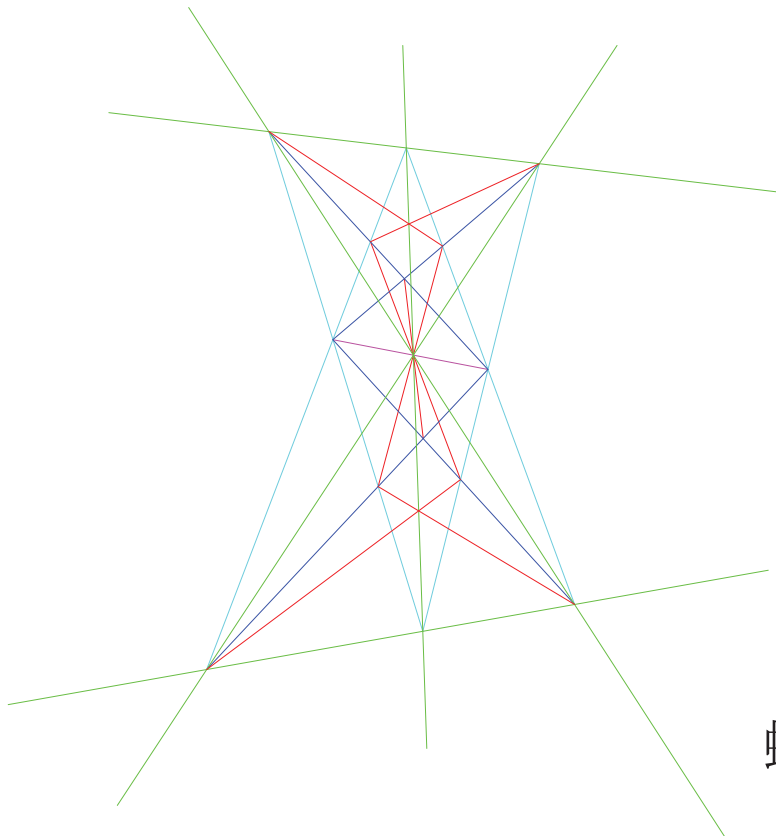
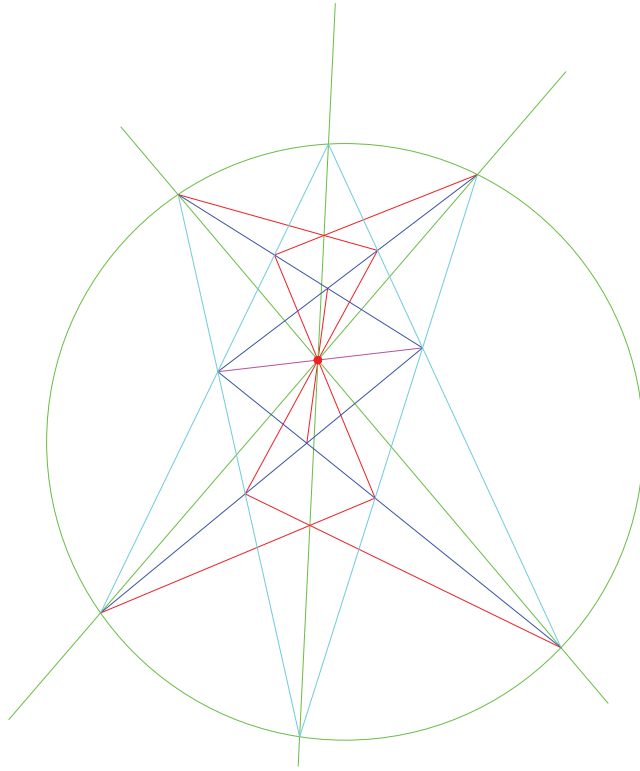
<http://geomatics85.org/> - 2015-8-25 - 縮尺 (cm単位) : 2:1 (x), 2.82857:1 (y)

(8.07, 15.51)



# Ebisui Pasacal, Papus 共点3線の定理

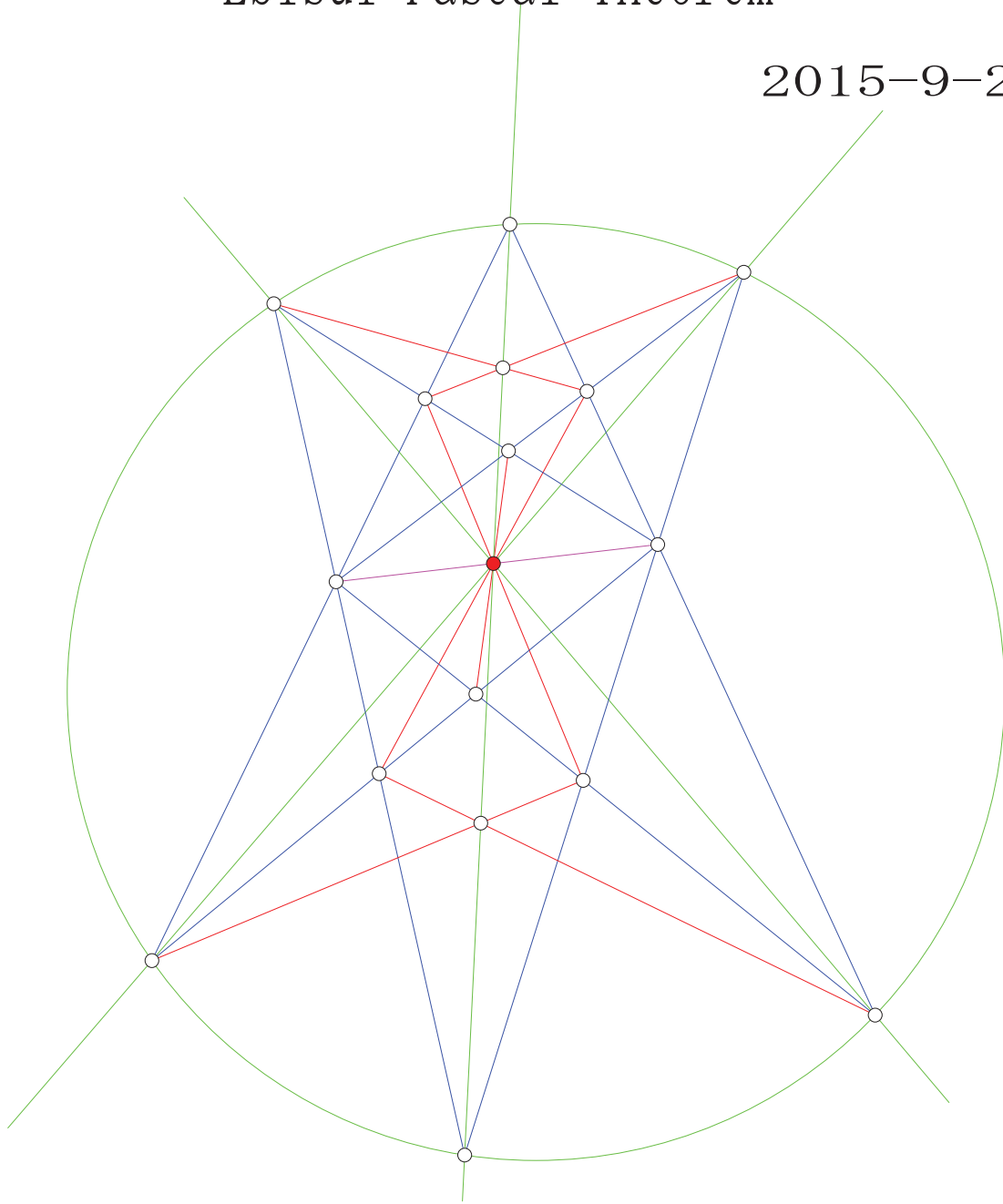
2015-9-2



蛭子井博孝

# Ebisui-Pascal Theorem

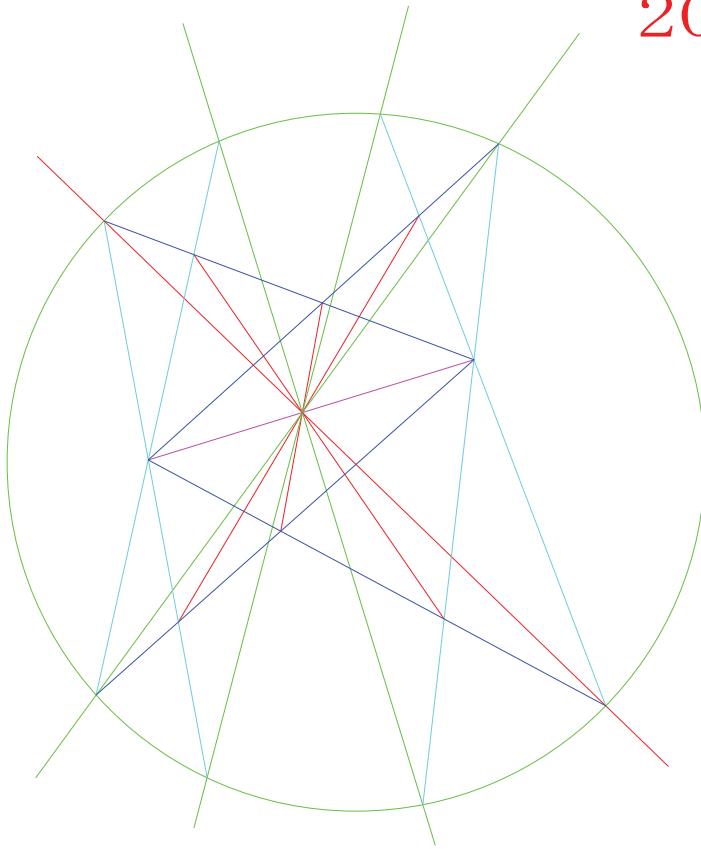
2015-9-2



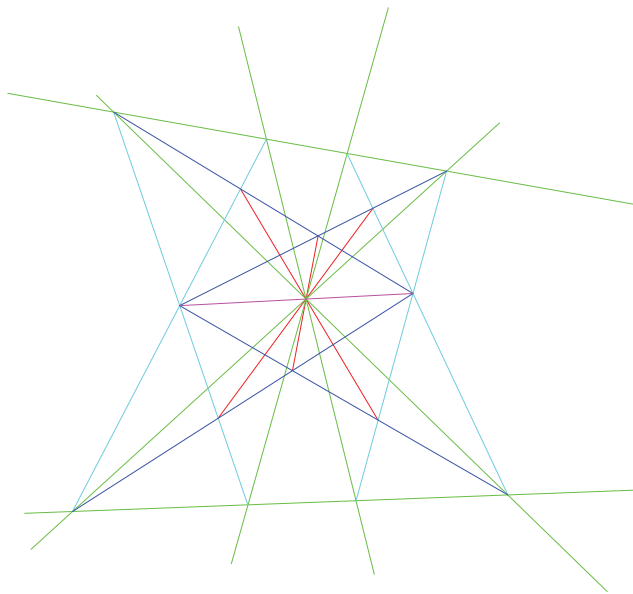
蛭子井博孝



2015-9-3



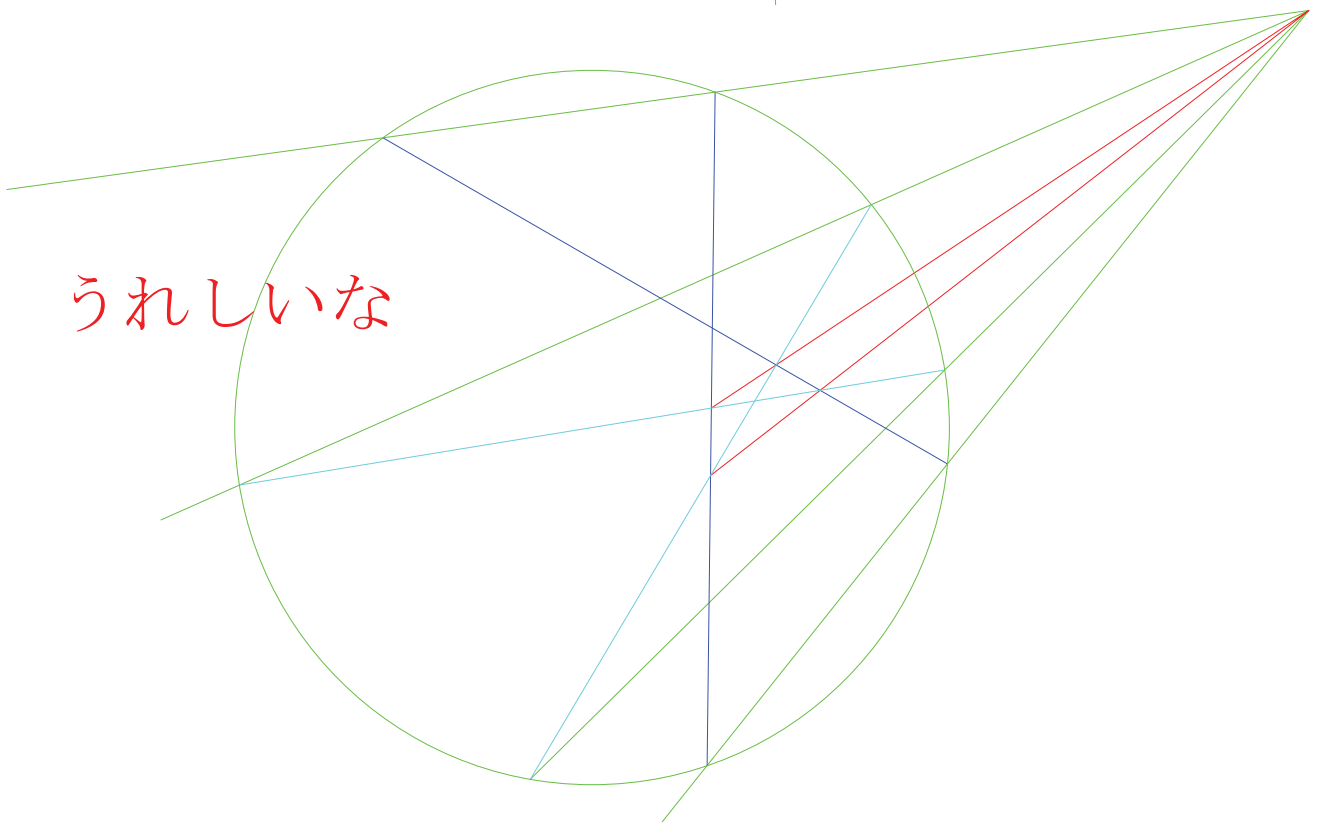
蛭子井 共点四線 共点定理



2015-9-3

エビちゃんの共点4線 共線共点定理

うれしいな





数30の図

数30の図  
 $r = 1$   
数30の図  
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数31の図  
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数31の図  
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数32の図  
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数62の図  
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数62の図  
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数63の図  
 $r = 1$   
数63の図  
 $r = 1$











2015年



9 x 16



> # BUNSU by H.E 2014-6-10:

> # 1:

> MDP := [31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31];

MDP := [31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31]

(1)

> c := 0 :for hy from 26 to 50 do for m from 1 to 12 do for d from 1 to MDP[m] do for t

from 1 to 24 do for f from 1 to 60 do HiDa :=  $\frac{1}{hy} + \frac{1}{m} + \frac{1}{d} + \frac{1}{t} + \frac{1}{f}$  :

if floor $\left(\text{evalf}\left(\frac{1}{HiDa}\right)\right) = \frac{1}{HiDa}$  then c := c + 1 : print $\left(Hida(c)\left[\frac{1}{hy[HeY]} + \frac{1}{m[M]} + \frac{1}{d[D]} + \frac{1}{t[T]} + \frac{1}{f[mi]} = HiDa\right]\right)$  fi:od:od:od:od:od:

$$Hida(1) \quad \frac{1}{27_{HeY}} + \frac{1}{2_M} + \frac{1}{3_D} + \frac{1}{9_T} + \frac{1}{54_{mi}} = 1$$

$$Hida(2) \quad \frac{1}{27_{HeY}} + \frac{1}{2_M} + \frac{1}{9_D} + \frac{1}{3_T} + \frac{1}{54_{mi}} = 1$$

$$Hida(3) \quad \frac{1}{27_{HeY}} + \frac{1}{3_M} + \frac{1}{2_D} + \frac{1}{9_T} + \frac{1}{54_{mi}} = 1$$

$$Hida(4) \quad \frac{1}{27_{HeY}} + \frac{1}{3_M} + \frac{1}{9_D} + \frac{1}{2_T} + \frac{1}{54_{mi}} = 1$$

$$Hida(5) \quad \frac{1}{27_{HeY}} + \frac{1}{3_M} + \frac{1}{18_D} + \frac{1}{18_T} + \frac{1}{54_{mi}} = \frac{1}{2}$$

$$Hida(6) \quad \frac{1}{27_{HeY}} + \frac{1}{3_M} + \frac{1}{27_D} + \frac{1}{18_T} + \frac{1}{27_{mi}} = \frac{1}{2}$$

$$Hida(7) \quad \frac{1}{27_{HeY}} + \frac{1}{4_M} + \frac{1}{9_D} + \frac{1}{12_T} + \frac{1}{54_{mi}} = \frac{1}{2}$$

$$Hida(8) \quad \frac{1}{27_{HeY}} + \frac{1}{4_M} + \frac{1}{12_D} + \frac{1}{9_T} + \frac{1}{54_{mi}} = \frac{1}{2}$$

$$Hida(9) \quad \frac{1}{27_{HeY}} + \frac{1}{6_M} + \frac{1}{6_D} + \frac{1}{9_T} + \frac{1}{54_{mi}} = \frac{1}{2}$$

$$Hida(10) \quad \frac{1}{27_{HeY}} + \frac{1}{6_M} + \frac{1}{9_D} + \frac{1}{6_T} + \frac{1}{54_{mi}} = \frac{1}{2}$$

$$Hida(11) \quad \frac{1}{27_{HeY}} + \frac{1}{6_M} + \frac{1}{18_D} + \frac{1}{18_T} + \frac{1}{54_{mi}} = \frac{1}{3}$$

$$Hida(12) \quad \frac{1}{27_{HeY}} + \frac{1}{6_M} + \frac{1}{27_D} + \frac{1}{18_T} + \frac{1}{27_{mi}} = \frac{1}{3}$$

$$Hida(13) \quad \frac{1}{27_{HeY}} + \frac{1}{8_M} + \frac{1}{9_D} + \frac{1}{24_T} + \frac{1}{54_{mi}} = \frac{1}{3}$$

$$Hida(14) \quad \frac{1}{27_{HeY}} + \frac{1}{8_M} + \frac{1}{24_D} + \frac{1}{9_T} + \frac{1}{54_{mi}} = \frac{1}{3}$$

$$\begin{aligned}
\text{Hida(15)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{2_D} + \frac{1}{3_T} + \frac{1}{54_{mi}} = 1 \\
\text{Hida(16)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{3_D} + \frac{1}{2_T} + \frac{1}{54_{mi}} = 1 \\
\text{Hida(17)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{4_D} + \frac{1}{12_T} + \frac{1}{54_{mi}} = \frac{1}{2} \\
\text{Hida(18)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{6_D} + \frac{1}{6_T} + \frac{1}{54_{mi}} = \frac{1}{2} \\
\text{Hida(19)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{8_D} + \frac{1}{24_T} + \frac{1}{54_{mi}} = \frac{1}{3} \\
\text{Hida(20)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{9_D} + \frac{1}{18_T} + \frac{1}{54_{mi}} = \frac{1}{3} \\
\text{Hida(21)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{10_D} + \frac{1}{15_T} + \frac{1}{54_{mi}} = \frac{1}{3} \\
\text{Hida(22)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{12_D} + \frac{1}{4_T} + \frac{1}{54_{mi}} = \frac{1}{2} \\
\text{Hida(23)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{12_D} + \frac{1}{12_T} + \frac{1}{54_{mi}} = \frac{1}{3} \\
\text{Hida(24)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{15_D} + \frac{1}{10_T} + \frac{1}{54_{mi}} = \frac{1}{3} \\
\text{Hida(25)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{18_D} + \frac{1}{9_T} + \frac{1}{54_{mi}} = \frac{1}{3} \\
\text{Hida(26)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{24_D} + \frac{1}{8_T} + \frac{1}{54_{mi}} = \frac{1}{3} \\
\text{Hida(27)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{24_D} + \frac{1}{24_T} + \frac{1}{54_{mi}} = \frac{1}{4} \\
\text{Hida(28)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{27_D} + \frac{1}{9_T} + \frac{1}{27_{mi}} = \frac{1}{3} \\
\text{Hida(29)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{28_D} + \frac{1}{21_T} + \frac{1}{54_{mi}} = \frac{1}{4} \\
\text{Hida(30)} \quad & \frac{1}{27_{HeY}} + \frac{1}{9_M} + \frac{1}{30_D} + \frac{1}{20_T} + \frac{1}{54_{mi}} = \frac{1}{4} \\
\text{Hida(31)} \quad & \frac{1}{27_{HeY}} + \frac{1}{10_M} + \frac{1}{9_D} + \frac{1}{15_T} + \frac{1}{54_{mi}} = \frac{1}{3} \\
\text{Hida(32)} \quad & \frac{1}{27_{HeY}} + \frac{1}{10_M} + \frac{1}{15_D} + \frac{1}{9_T} + \frac{1}{54_{mi}} = \frac{1}{3}
\end{aligned}$$

$$Hida(33) \quad \frac{1}{27_{HeY}} + \frac{1}{12_M} + \frac{1}{4_D} + \frac{1}{9_T} + \frac{1}{54_{mi}} = \frac{1}{2}$$

$$Hida(34) \quad \frac{1}{27_{HeY}} + \frac{1}{12_M} + \frac{1}{9_D} + \frac{1}{4_T} + \frac{1}{54_{mi}} = \frac{1}{2}$$

$$Hida(35) \quad \frac{1}{27_{HeY}} + \frac{1}{12_M} + \frac{1}{9_D} + \frac{1}{12_T} + \frac{1}{54_{mi}} = \frac{1}{3}$$

$$Hida(36) \quad \frac{1}{27_{HeY}} + \frac{1}{12_M} + \frac{1}{12_D} + \frac{1}{9_T} + \frac{1}{54_{mi}} = \frac{1}{3}$$

$$Hida(37) \quad \frac{1}{27_{HeY}} + \frac{1}{12_M} + \frac{1}{18_D} + \frac{1}{18_T} + \frac{1}{54_{mi}} = \frac{1}{4}$$

$$Hida(38) \quad \frac{1}{27_{HeY}} + \frac{1}{12_M} + \frac{1}{27_D} + \frac{1}{18_T} + \frac{1}{27_{mi}} = \frac{1}{4}$$

$$Hida(39) \quad \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{3_D} + \frac{1}{12_T} + \frac{1}{21_{mi}} = 1$$

$$Hida(40) \quad \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{3_D} + \frac{1}{21_T} + \frac{1}{12_{mi}} = 1$$

$$Hida(41) \quad \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{4_D} + \frac{1}{6_T} + \frac{1}{21_{mi}} = 1$$

$$Hida(42) \quad \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{4_D} + \frac{1}{7_T} + \frac{1}{14_{mi}} = 1$$

$$Hida(43) \quad \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{4_D} + \frac{1}{14_T} + \frac{1}{7_{mi}} = 1$$

$$Hida(44) \quad \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{4_D} + \frac{1}{21_T} + \frac{1}{6_{mi}} = 1$$

$$Hida(45) \quad \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{6_D} + \frac{1}{4_T} + \frac{1}{21_{mi}} = 1$$

$$Hida(46) \quad \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{6_D} + \frac{1}{21_T} + \frac{1}{4_{mi}} = 1$$

$$Hida(47) \quad \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{7_D} + \frac{1}{4_T} + \frac{1}{14_{mi}} = 1$$

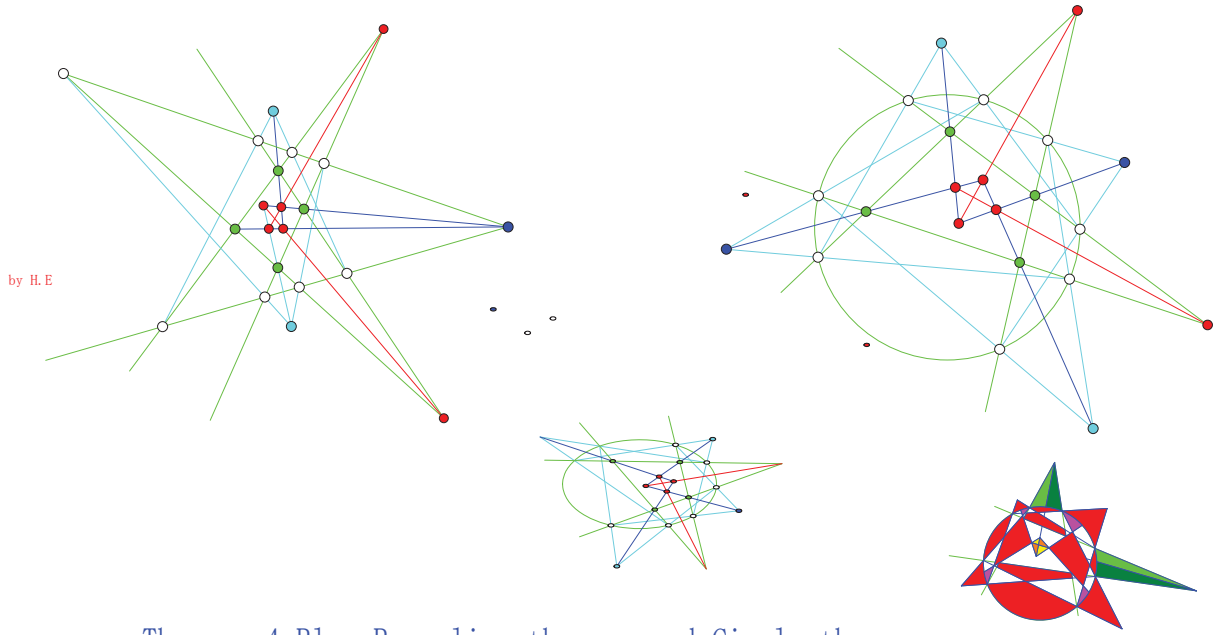
$$Hida(48) \quad \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{7_D} + \frac{1}{14_T} + \frac{1}{4_{mi}} = 1$$

$$Hida(49) \quad \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{12_D} + \frac{1}{3_T} + \frac{1}{21_{mi}} = 1$$

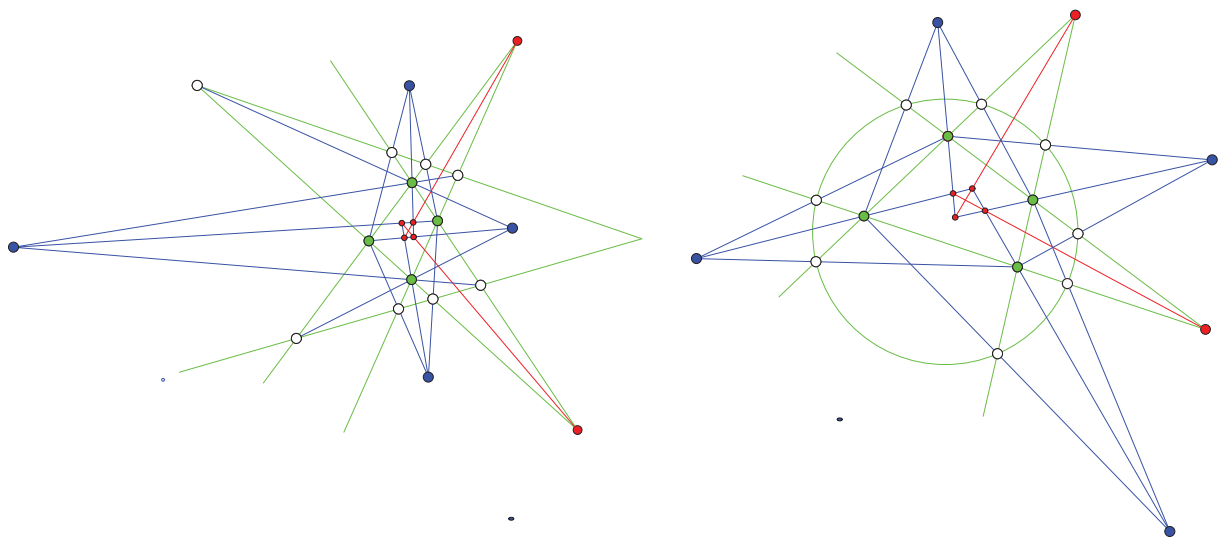
$$Hida(50) \quad \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{12_D} + \frac{1}{21_T} + \frac{1}{3_{mi}} = 1$$

$$\begin{aligned}
\text{Hida(51)} \quad & \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{14_D} + \frac{1}{4_T} + \frac{1}{7_{mi}} = 1 \\
\text{Hida(52)} \quad & \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{14_D} + \frac{1}{7_T} + \frac{1}{4_{mi}} = 1 \\
\text{Hida(53)} \quad & \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{21_D} + \frac{1}{3_T} + \frac{1}{12_{mi}} = 1 \\
\text{Hida(54)} \quad & \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{21_D} + \frac{1}{4_T} + \frac{1}{6_{mi}} = 1 \\
\text{Hida(55)} \quad & \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{21_D} + \frac{1}{6_T} + \frac{1}{4_{mi}} = 1 \\
\text{Hida(56)} \quad & \frac{1}{28_{HeY}} + \frac{1}{2_M} + \frac{1}{21_D} + \frac{1}{12_T} + \frac{1}{3_{mi}} = 1 \\
\text{Hida(57)} \quad & \frac{1}{28_{HeY}} + \frac{1}{3_M} + \frac{1}{2_D} + \frac{1}{12_T} + \frac{1}{21_{mi}} = 1 \\
\text{Hida(58)} \quad & \frac{1}{28_{HeY}} + \frac{1}{3_M} + \frac{1}{2_D} + \frac{1}{21_T} + \frac{1}{12_{mi}} = 1 \\
\text{Hida(59)} \quad & \frac{1}{28_{HeY}} + \frac{1}{3_M} + \frac{1}{3_D} + \frac{1}{4_T} + \frac{1}{21_{mi}} = 1 \\
\text{Hida(60)} \quad & \frac{1}{28_{HeY}} + \frac{1}{3_M} + \frac{1}{3_D} + \frac{1}{21_T} + \frac{1}{4_{mi}} = 1 \\
\text{Hida(61)} \quad & \frac{1}{28_{HeY}} + \frac{1}{3_M} + \frac{1}{4_D} + \frac{1}{3_T} + \frac{1}{21_{mi}} = 1 \\
\text{Hida(62)} \quad & \frac{1}{28_{HeY}} + \frac{1}{3_M} + \frac{1}{4_D} + \frac{1}{21_T} + \frac{1}{3_{mi}} = 1 \\
\text{Hida(63)} \quad & \frac{1}{28_{HeY}} + \frac{1}{3_M} + \frac{1}{12_D} + \frac{1}{2_T} + \frac{1}{21_{mi}} = 1 \\
\text{Hida(64)} \quad & \frac{1}{28_{HeY}} + \frac{1}{3_M} + \frac{1}{12_D} + \frac{1}{21_T} + \frac{1}{2_{mi}} = 1 \\
\text{Hida(65)} \quad & \frac{1}{28_{HeY}} + \frac{1}{3_M} + \frac{1}{14_D} + \frac{1}{24_T} + \frac{1}{56_{mi}} = \frac{1}{2} \\
\text{Hida(66)} \quad & \frac{1}{28_{HeY}} + \frac{1}{3_M} + \frac{1}{15_D} + \frac{1}{21_T} + \frac{1}{60_{mi}} = \frac{1}{2} \\
\text{Hida(67)} \quad & \frac{1}{28_{HeY}} + \frac{1}{3_M} + \frac{1}{16_D} + \frac{1}{21_T} + \frac{1}{48_{mi}} = \frac{1}{2} \\
\text{Hida(68)} \quad & \frac{1}{28_{HeY}} + \frac{1}{3_M} + \frac{1}{18_D} + \frac{1}{21_T} + \frac{1}{36_{mi}} = \frac{1}{2}
\end{aligned}$$

Theorem 3. RED Rose line Theorem and Circle Theorem

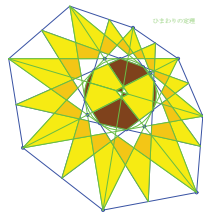


Theorem 4 Blue Rose line theorem and Circle theorem

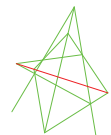
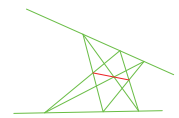
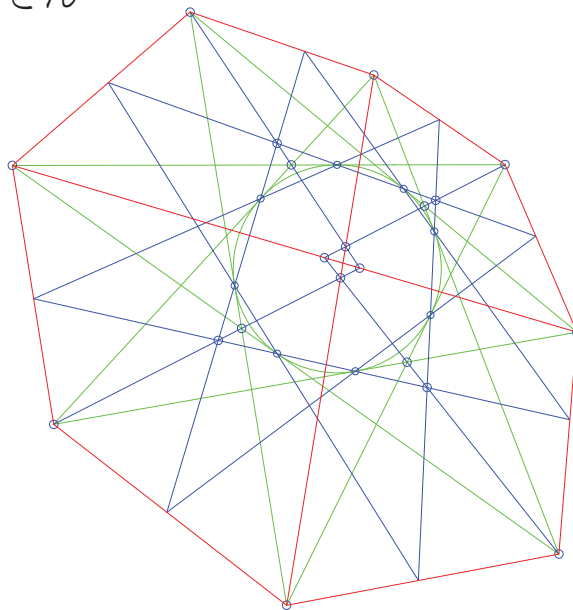
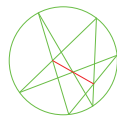
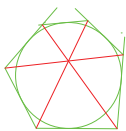


ありがとう数学の女神さん

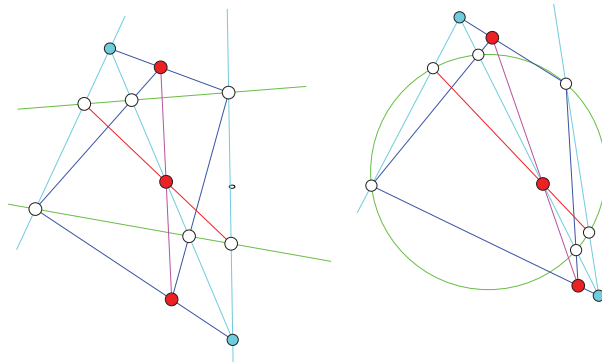
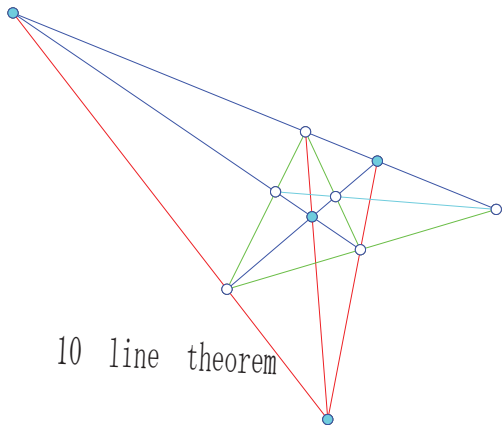
Sun flower Theorem



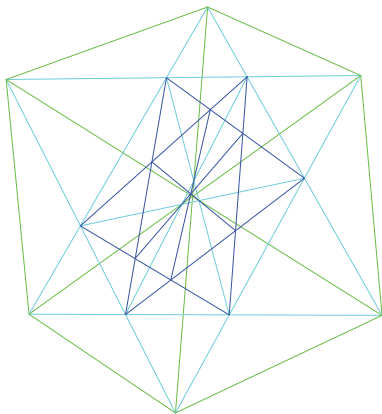
by H.E



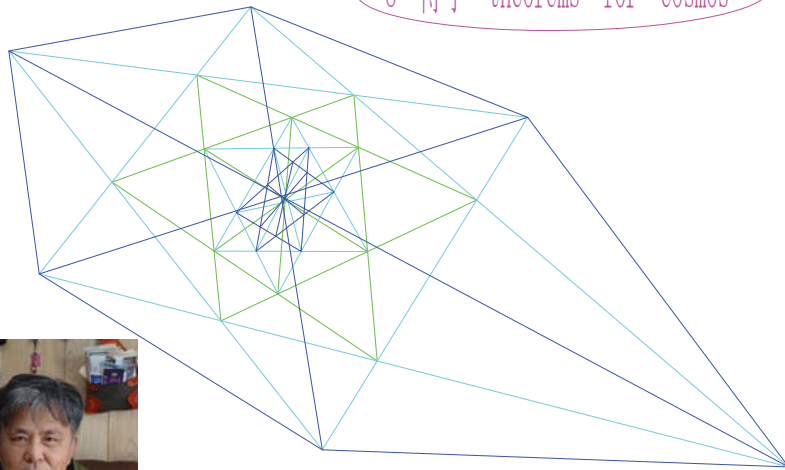
# Thank you for all



## Hexagon Star Theorem

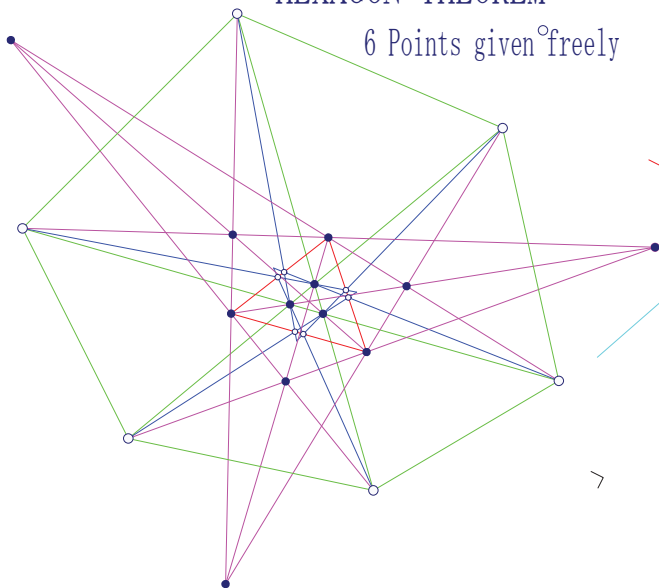


8 博孝 theorems for Cosmos

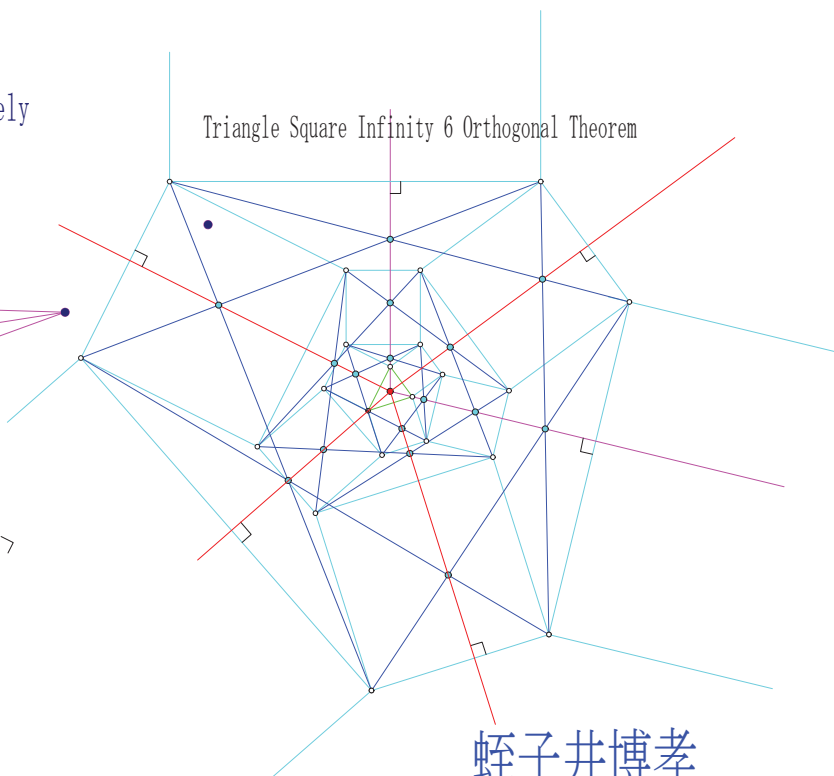


## HEXAGON THEOREM

6 Points given freely

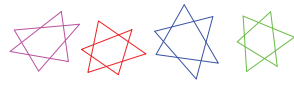


## Triangle Square Infinity 6 Orthogonal Theorem



蛭子井博孝

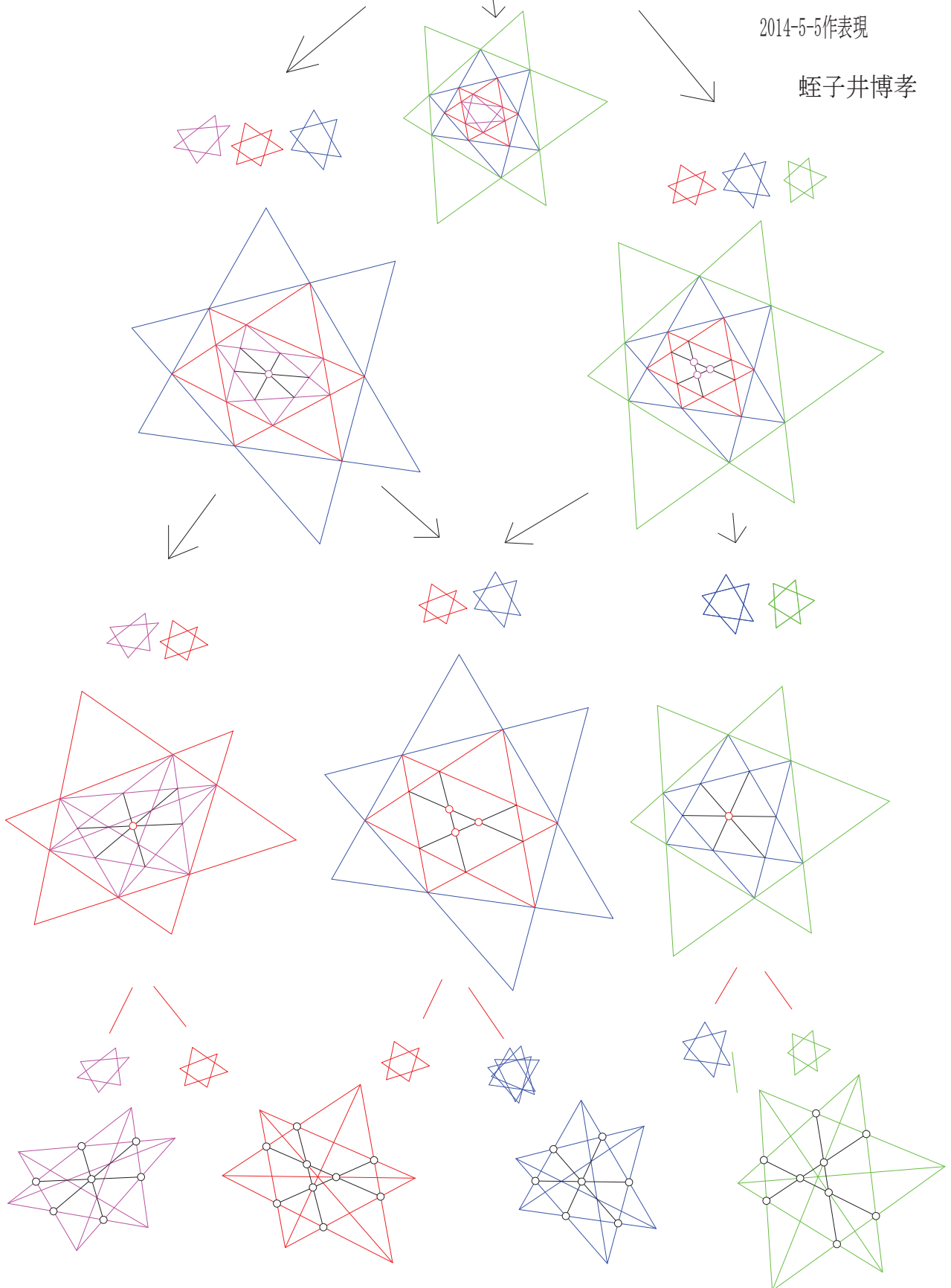
# 星形連鎖公理 三角-点 交互無限連鎖

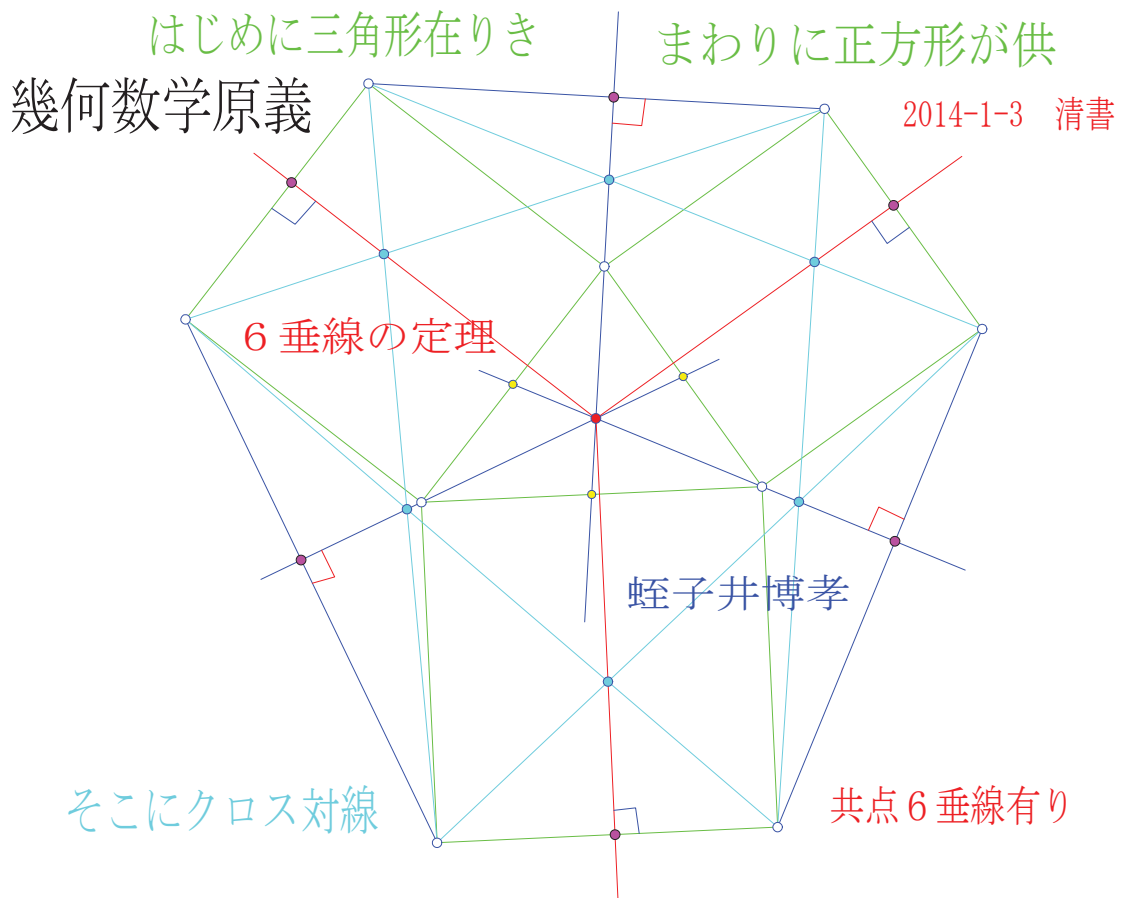


HPPBDE

2014-5-5作表現

蛭子井博孝

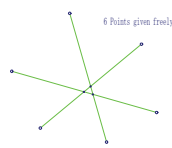






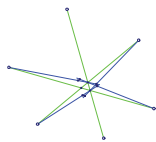
## 幾何数学原義 2.

6点を2つずつ結びと③交点できる。



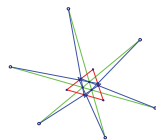
HEZ-0021

青線とひく。2交点を作る



HEZ-0022

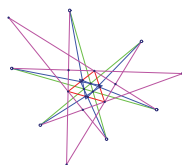
2交点を3つから赤三角形を作る



HEZ-0023

赤三角形の頂点と初めの点を結び、

マゼンタの2直線から交点を作る



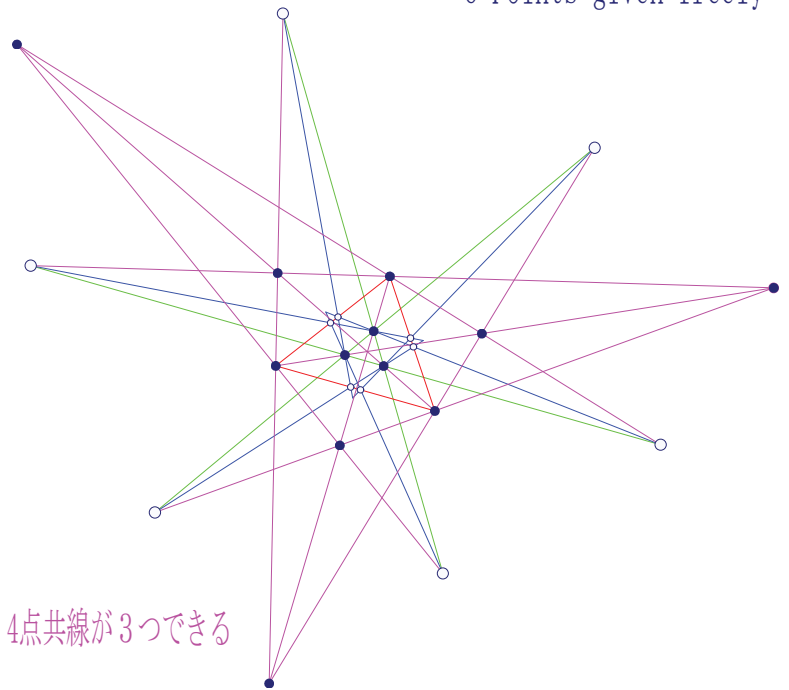
## Collinear NOTE no. 9

HEZ-0020

ICGG K-JH

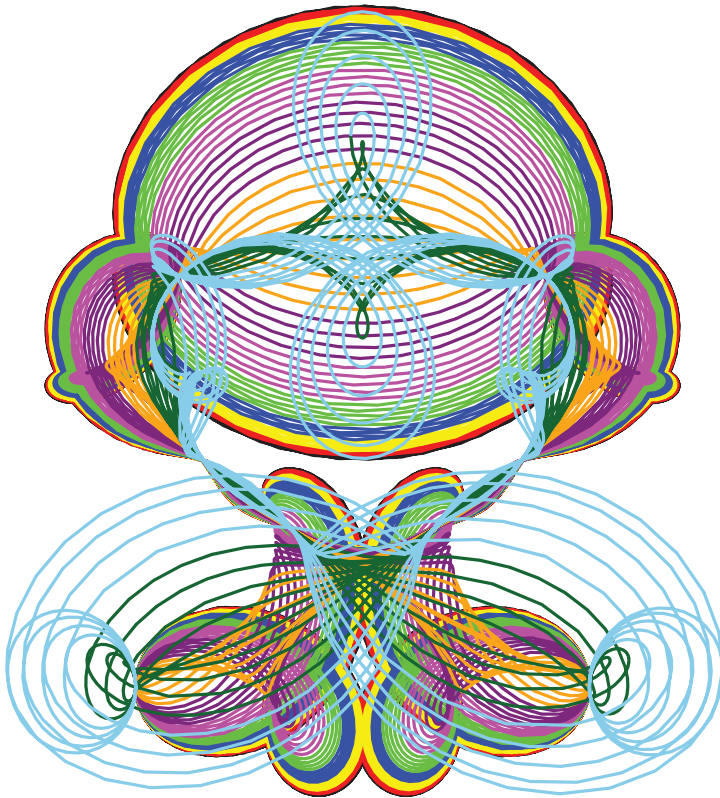
## HEXAGON THEOREM

6 Points given freely



Hiroataka Ebisu

Pachikuri AKISOYOGU by H.E



$BGT = "05-25 (11:39:35 PM)", [80], HEB = [8, 5, 2]$

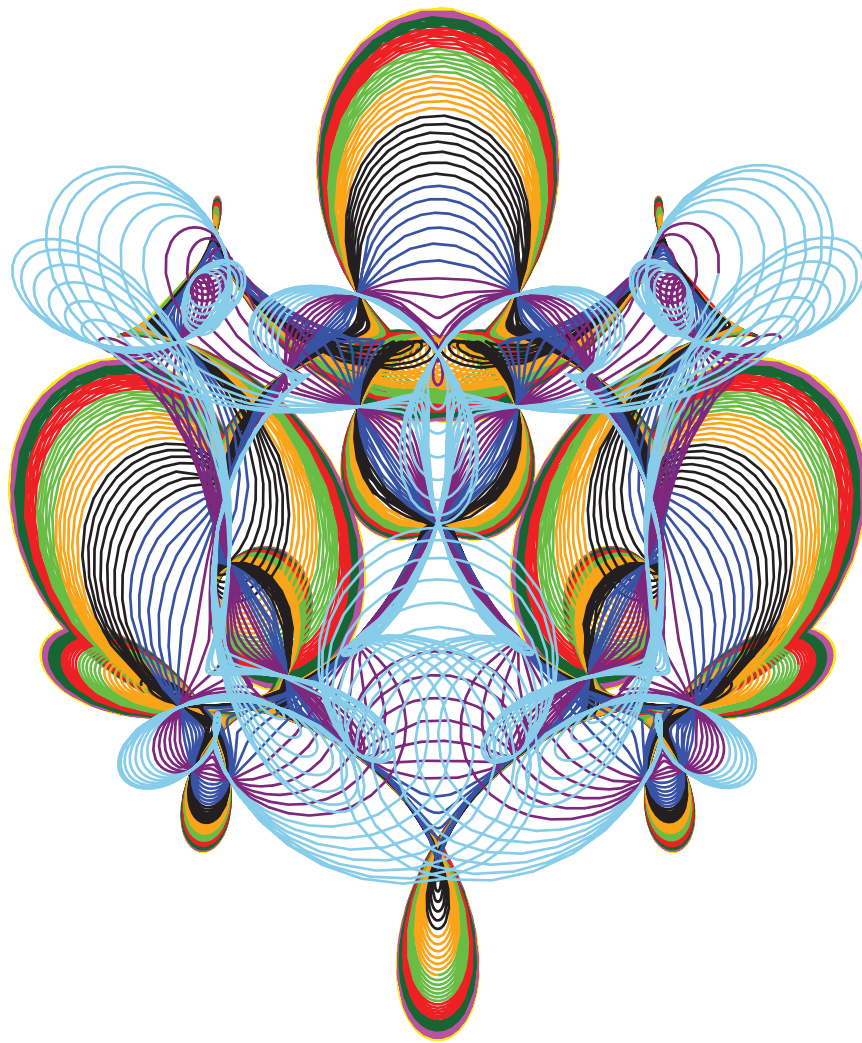
$$X = \sin\left(\frac{1383}{10} t\right) + \sin\left(\frac{1844}{5} t\right) \cos\left(\frac{461}{2} t\right) \cos\left(\frac{461}{5} t\right) \cos\left(\tan\left(\frac{1}{5} t\right)\right)$$

$$Y = \cos\left(\frac{461}{5} t\right) + \cos\left(\frac{1844}{5} t\right) \cos\left(\frac{461}{2} t\right) \cos\left(\frac{461}{5} t\right) \cos\left(\tan\left(\frac{1}{5} t\right)\right)$$

$$\left[ t = 0 .. 2 \pi, st = \frac{1}{10} \right], \text{蛭子井博孝}$$

"2015-05-25 (11:39:35 PM)"

(4)



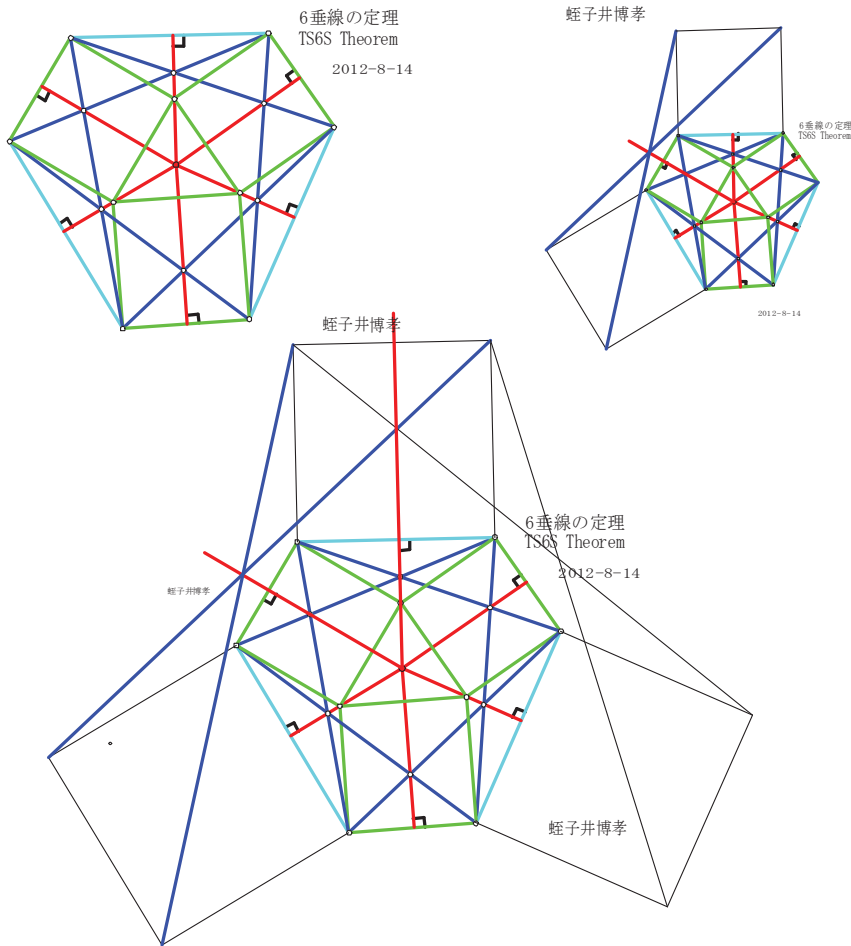
$$Hi_8 - Equ \quad X = \sin(126.s) + \sin(378.s) \cos(315.s) \cos(630.s) \cos\left(\tan\left(\frac{1}{5}.s\right)\right)$$

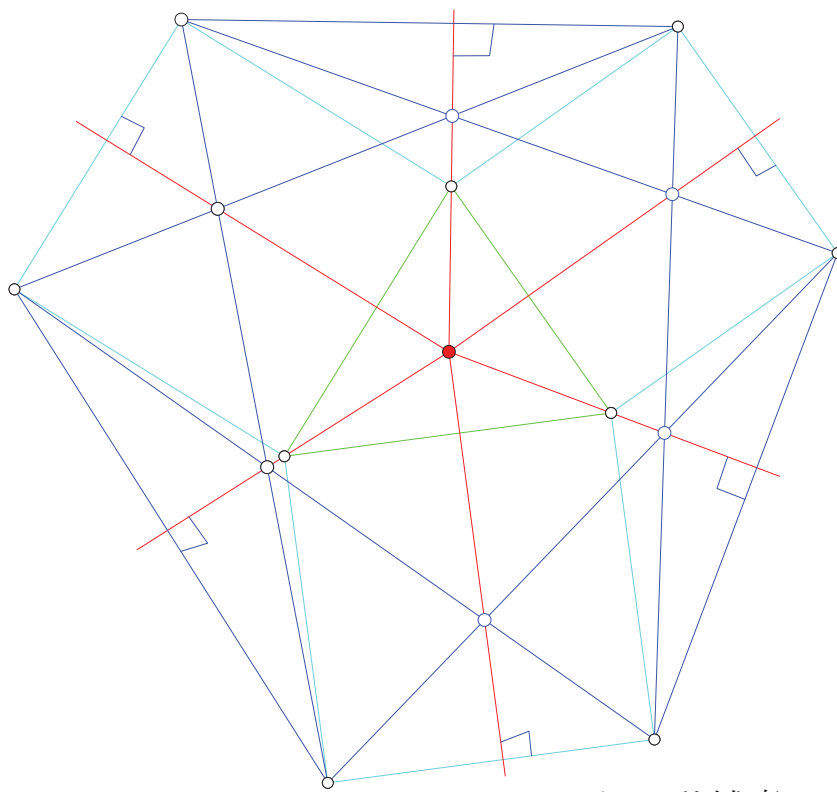
$$Hi_{2432} - Equ \quad Y = \cos(189.s) + \cos(378.s) \cos(315.s) \cos(630.s) \cos\left(\tan\left(\frac{1}{5}.s\right)\right)$$

【6垂線の定理】

蛭子井博孝発見定理

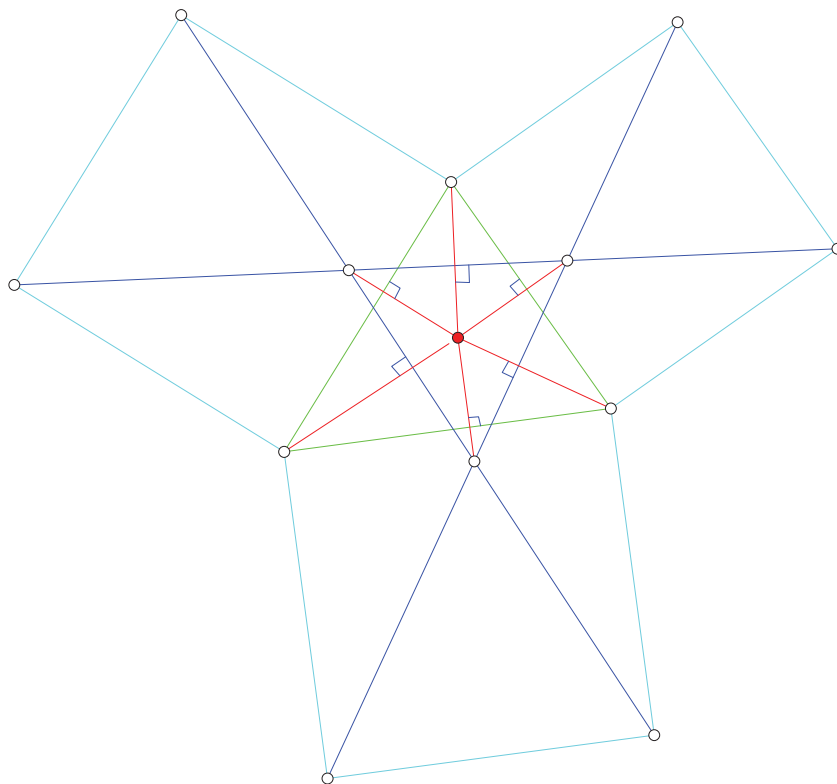
まず、任意の形の三角形の各辺を一辺とする正方形（緑）を3つ描く。  
次に、三角形の各辺に平行な3つの正方形の3辺について考える。  
3つの辺の両端点を対角に図のように結び、6本の線（青線）の6交点を創る。  
さらに、三角形の外側の3つの正方形の端点を結び、外郭6角形を描く。  
先ほどの6点より、その6角形の最近側の辺に、図のように垂線を下す。  
その6本の垂線の逆延長の交点は、ただ1点になる。これを6垂線の定理という。  
これは、さらに、外側に図のように正方形を追加していき、無限に拡張できる。  
このとき、新しくできる、対角点は、はじめの6垂線の延長線上にある。





蛭子井博孝

6 垂線の定理

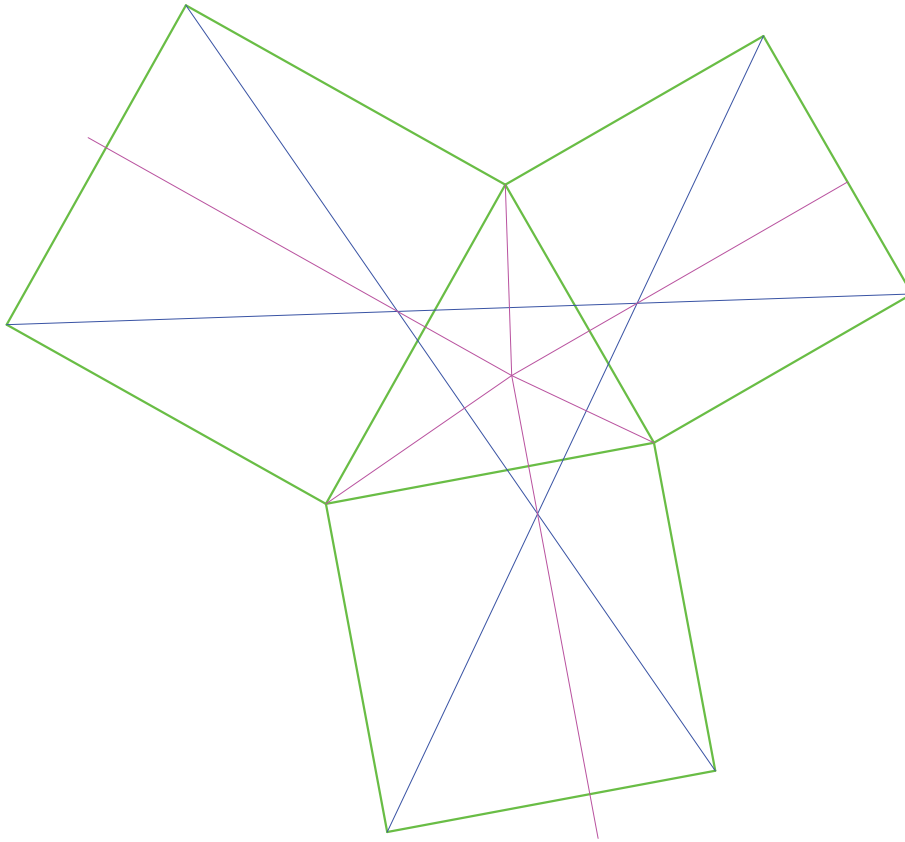


蛭子井博孝

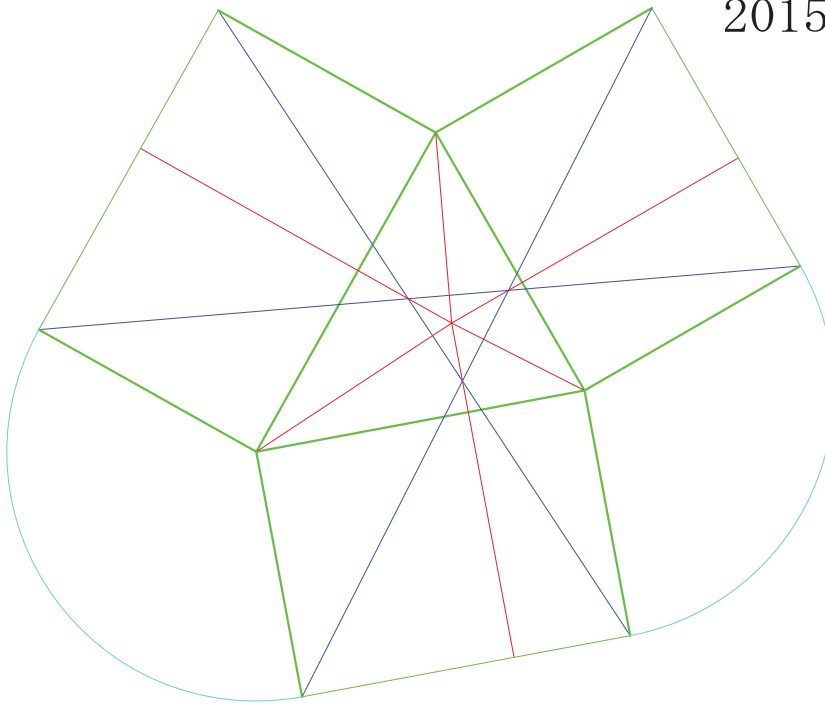
スター6 垂線の定理

# 6垂線共点第二定理

2015-4-14



2015-8-1



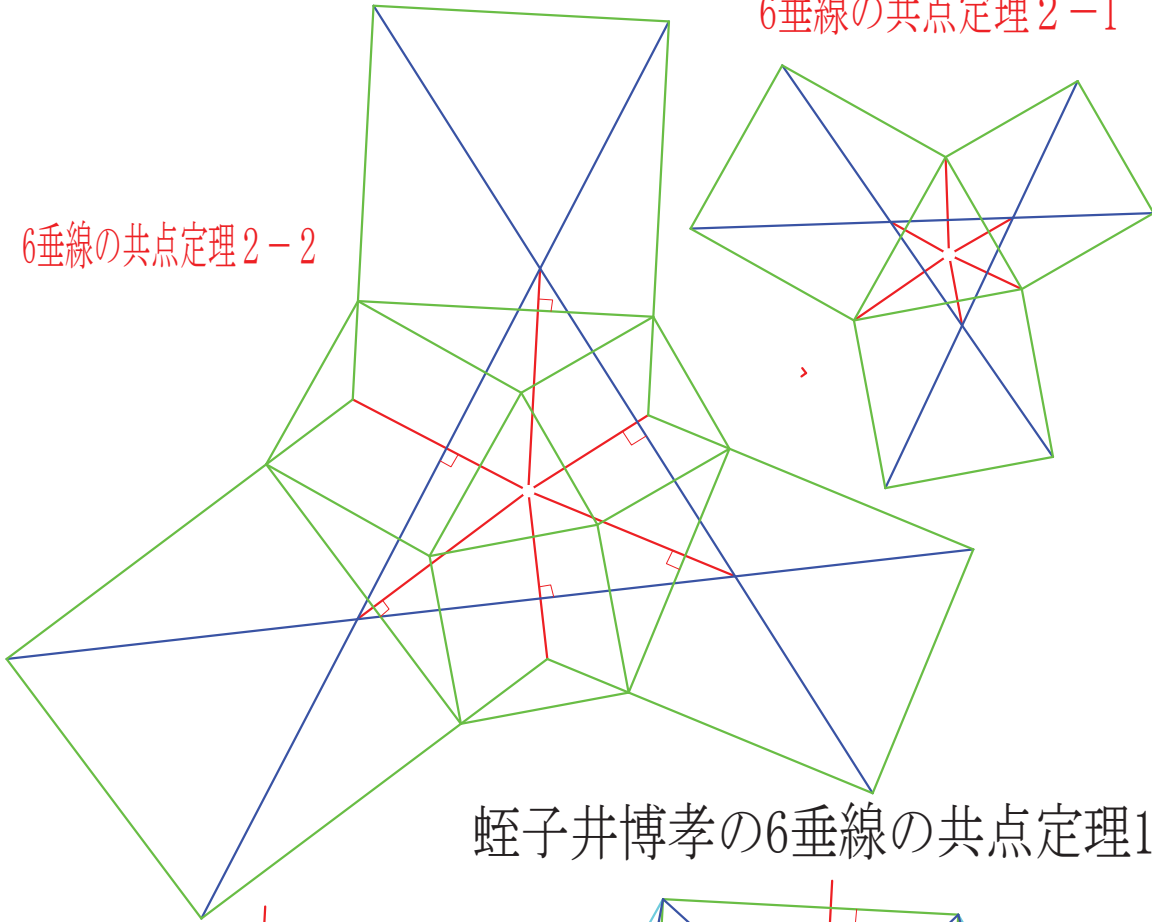
蛭子井博孝

# 6 Orthogonal lines concurrent Theorems 2015-4-14 清書

Hiroataka Ebisui

6垂線の共点定理2-1

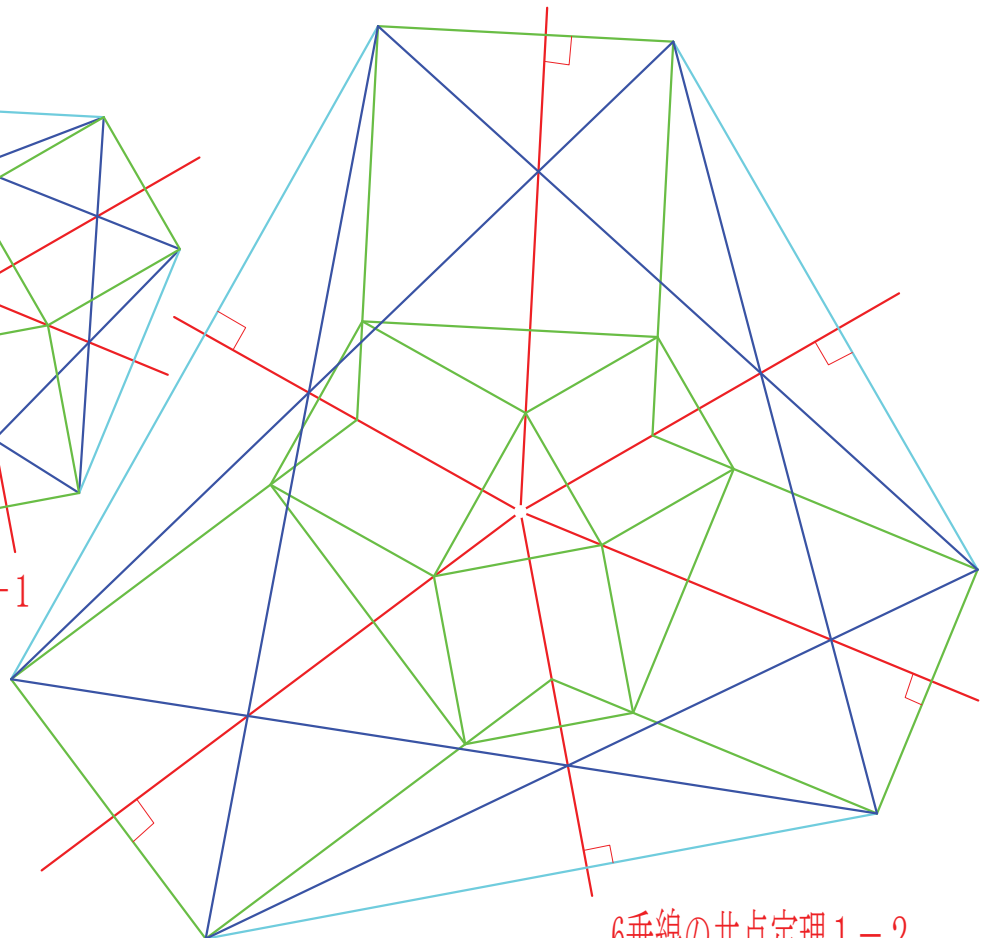
6垂線の共点定理2-2



蛭子井博孝の6垂線の共点定理1、2

6垂線の共点定理1-1

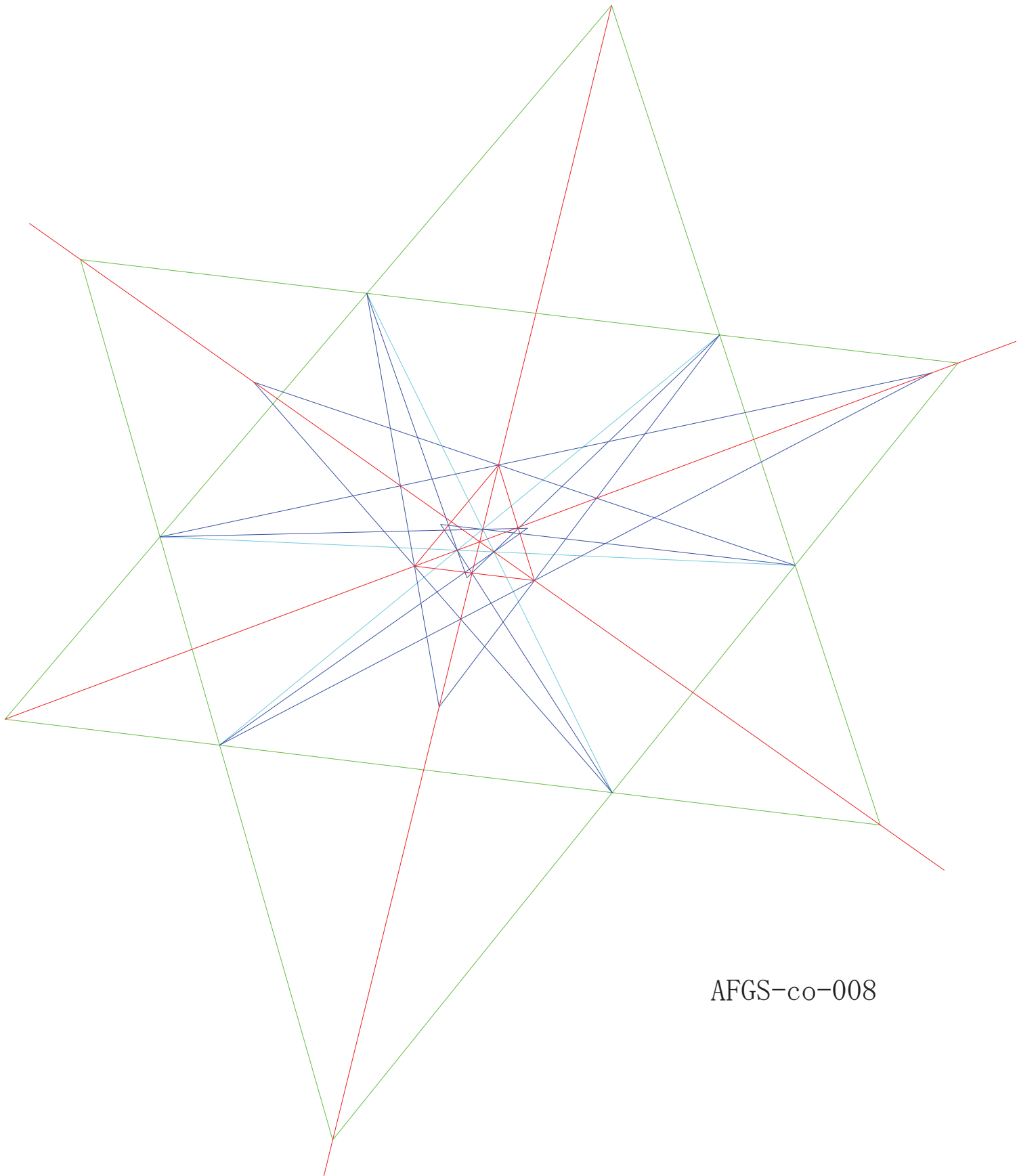
6垂線の共点定理1-2



AFGS-ortho-005

# Collinear Second NOTE No. 8

Hiroataka Ebisui



AFGS-co-008

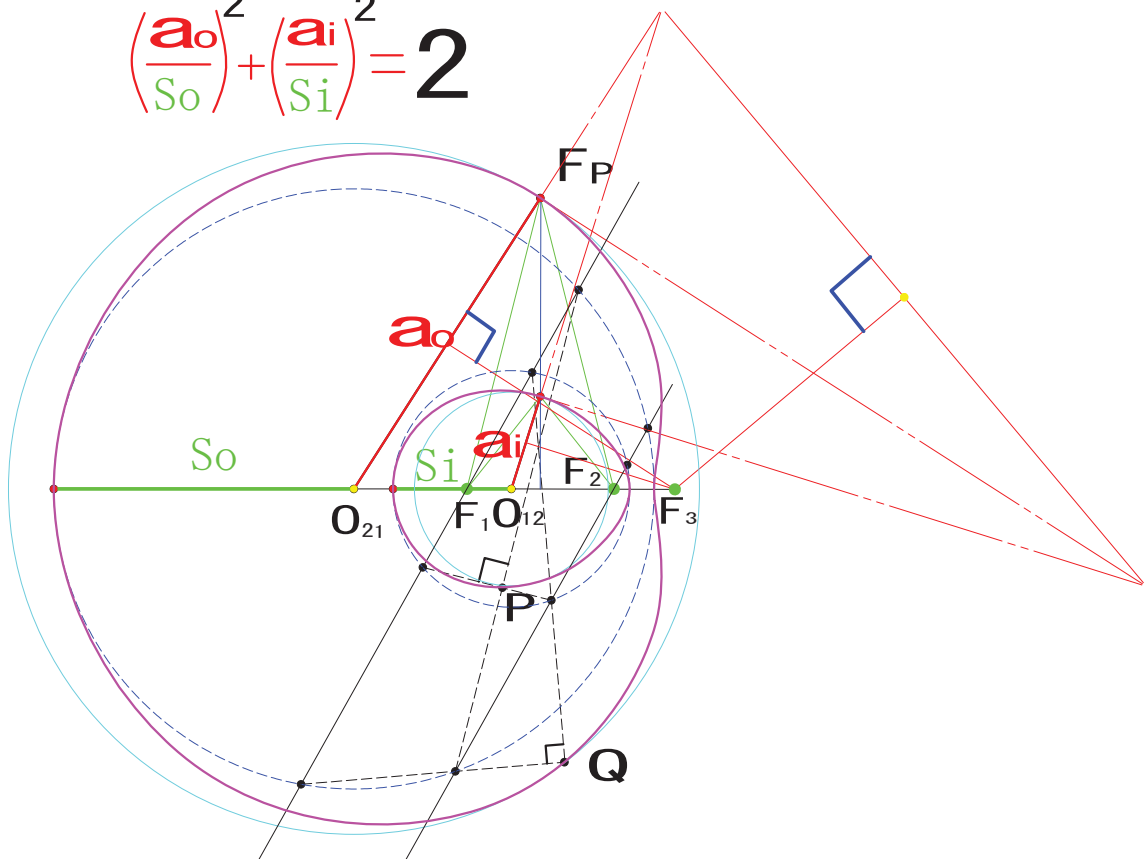


# Example Theorem In Doval of Orthogonal line Theorems

Hiroataka Ebisui

Doval不変式

$$\left(\frac{a_o}{S_o}\right)^2 + \left(\frac{a_i}{S_i}\right)^2 = 2$$

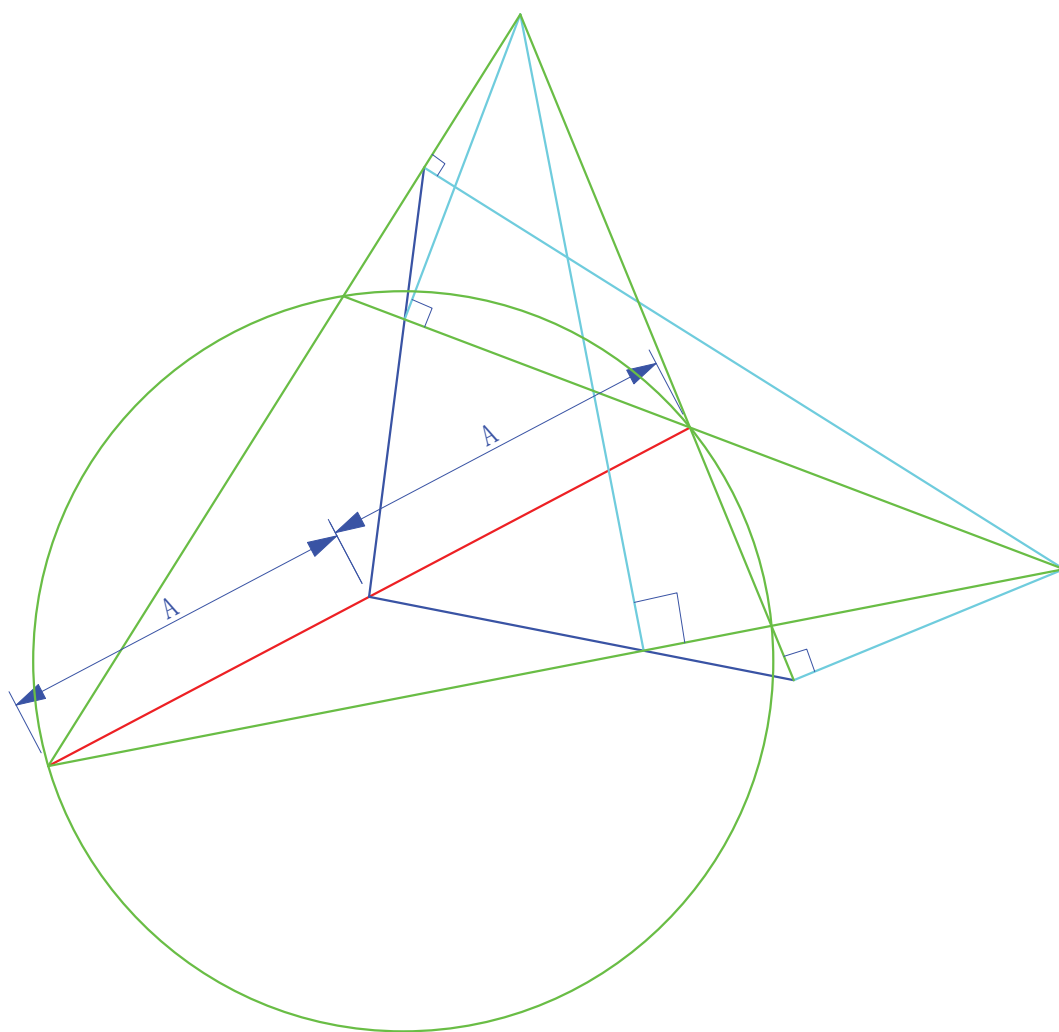


ai (内短軸), ao (外長軸) の垂直2等分線は、第3焦点を通る

AFGS ORTH-001

# Collinear Second NOTE No. 2

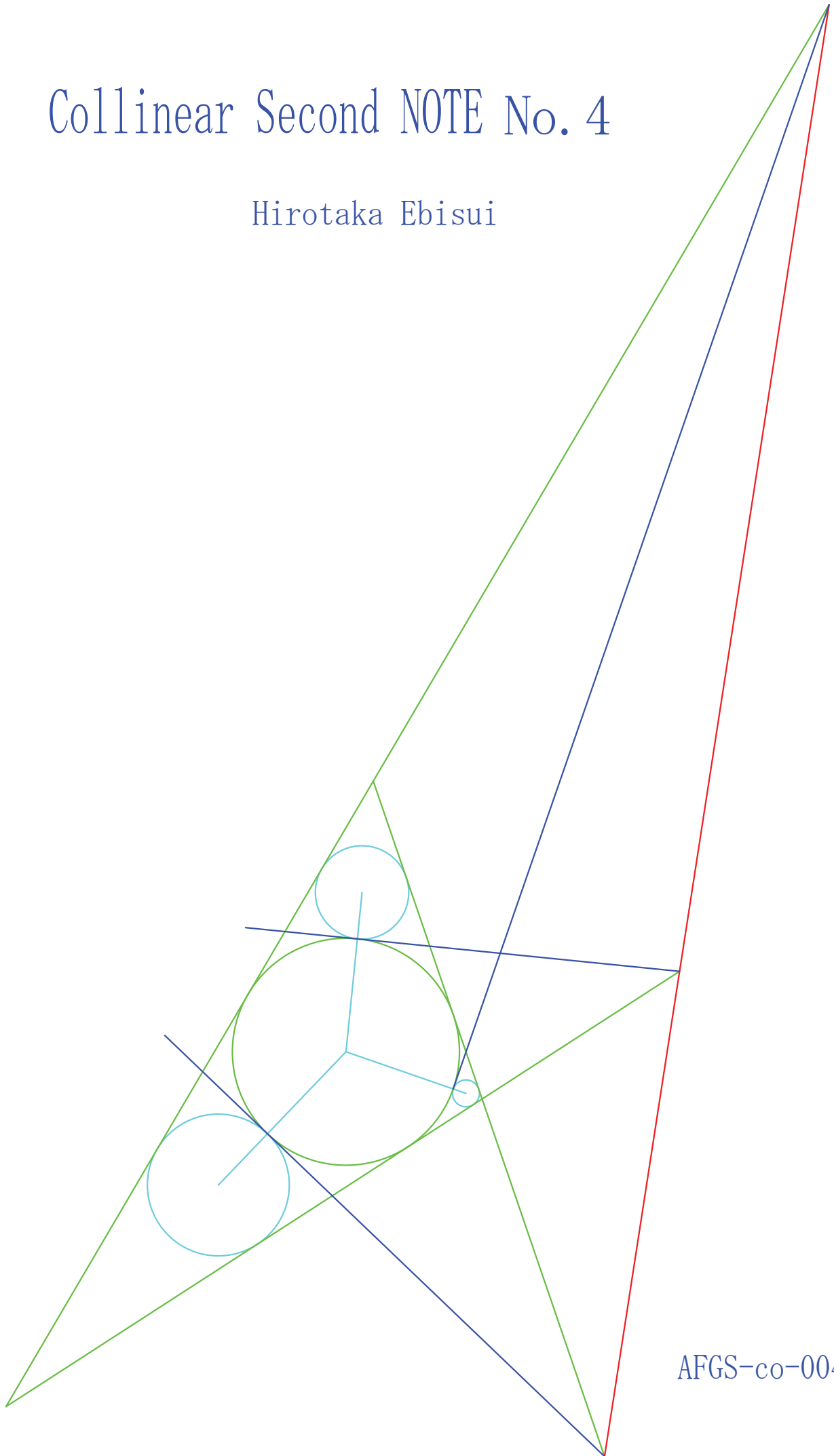
Hiroataka Ebisui



AFGS-co-002

# Collinear Second NOTE No. 4

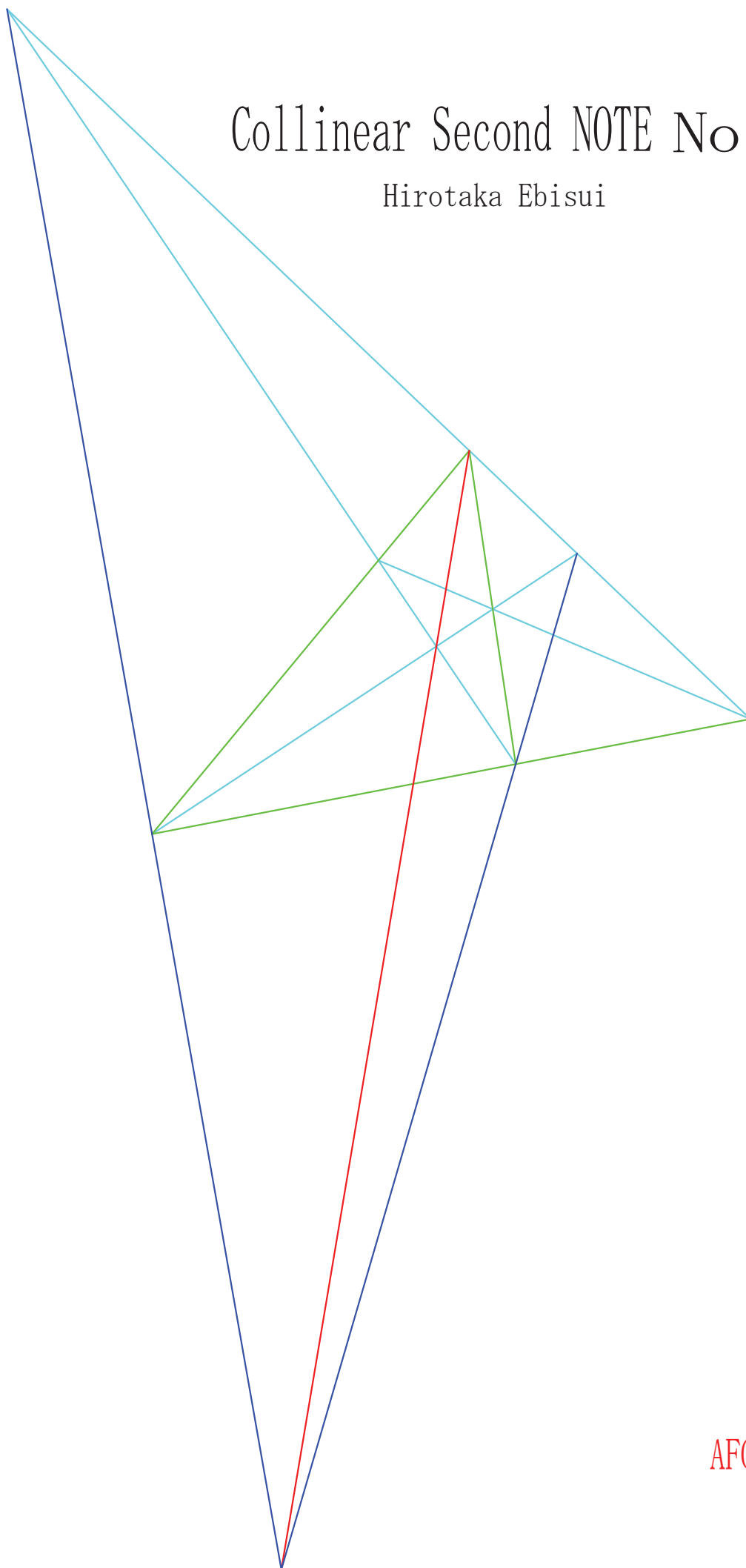
Hiroataka Ebisui



AFGS-co-004

# Collinear Second NOTE No. 5

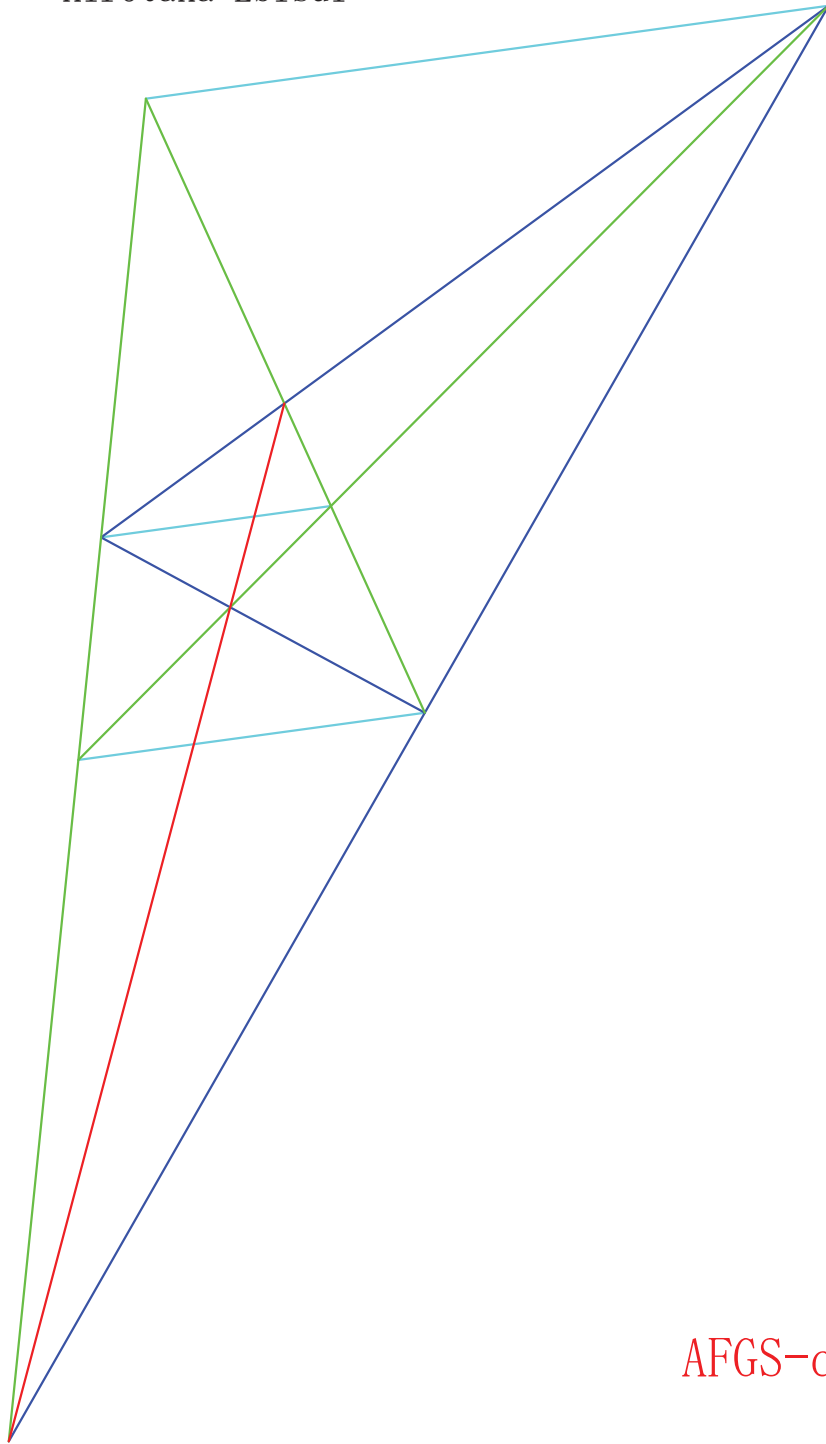
Hiroataka Ebisui



AFGS-co-005

# Collinear Second NOTE No. 7

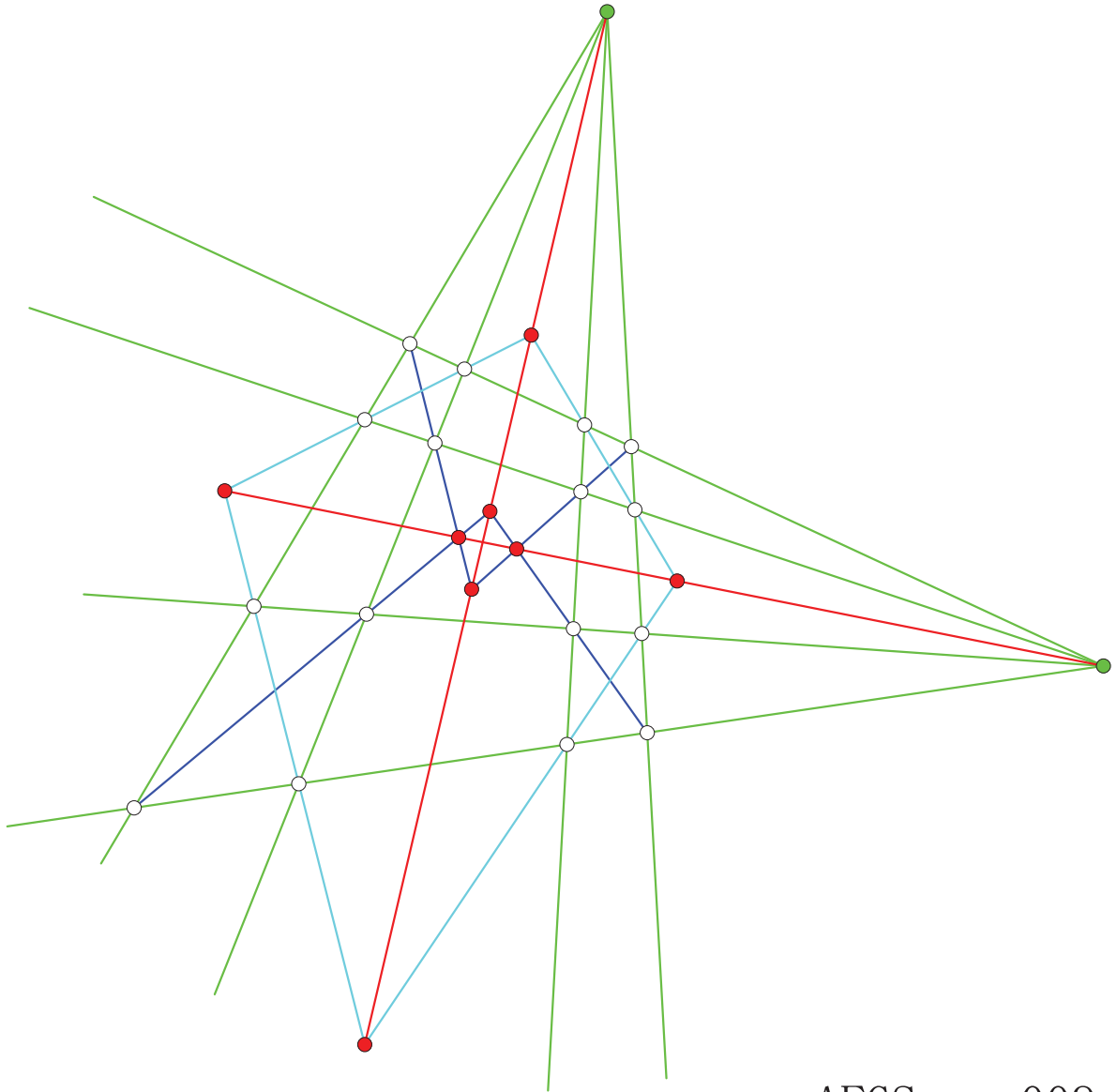
Hiroataka Ebisui



AFGS-co-007

# Collinear Second NOTE No. 9

Hiroataka Ebisui



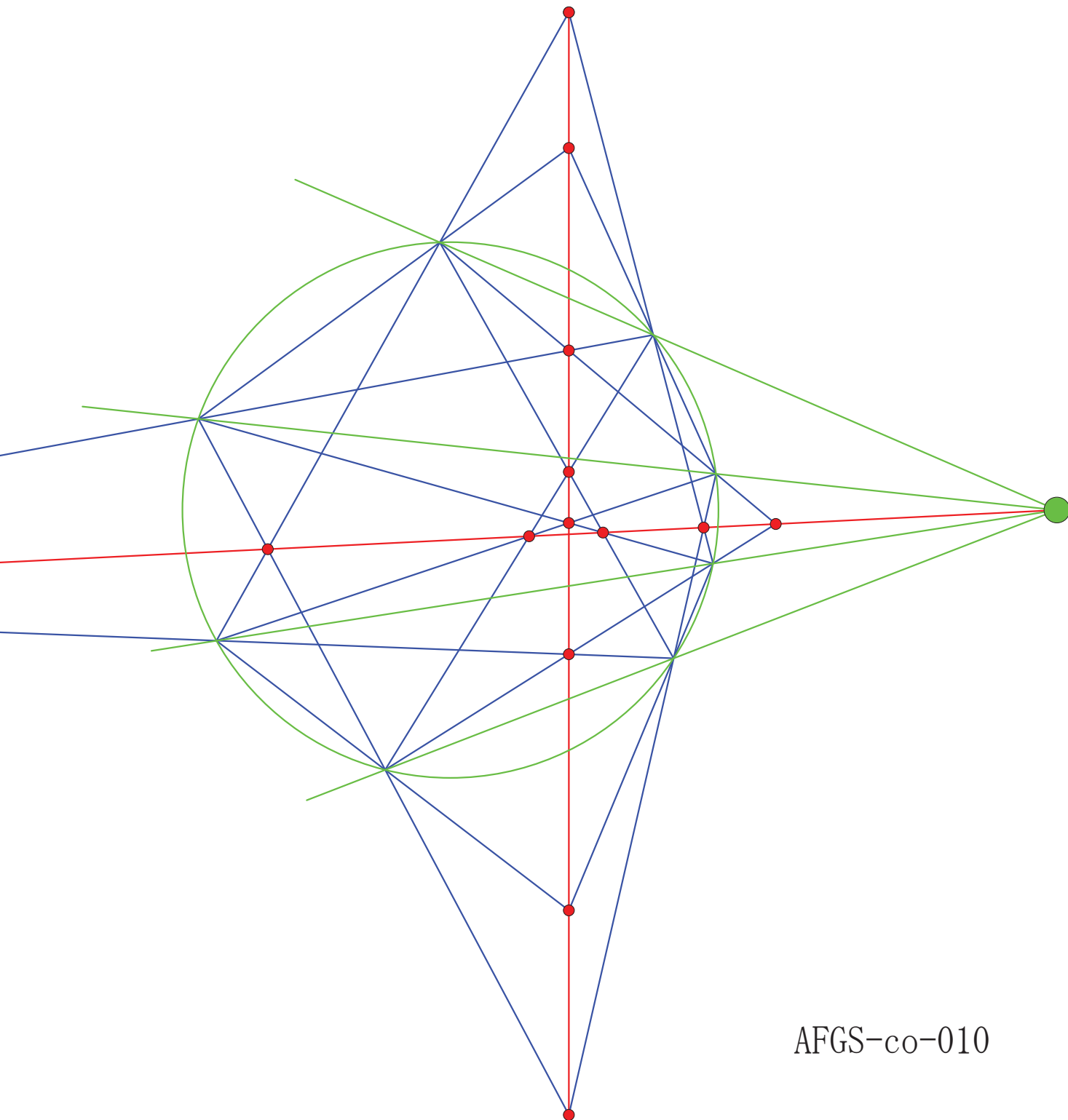
AFGS-co-009

# Collinear Second NOTE No. 10

Hiroataka Ebisui

## 87(はな)の定理

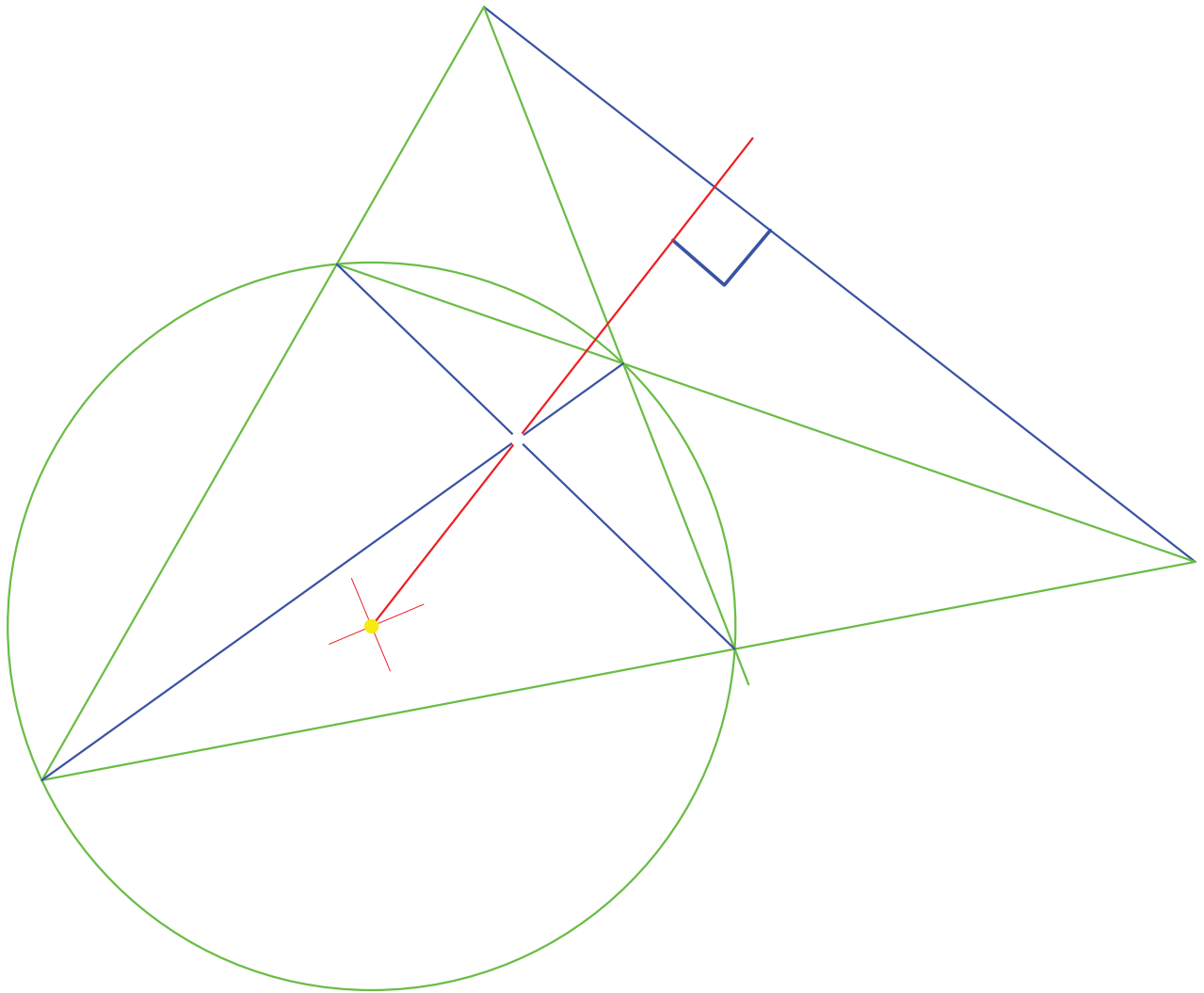
2015-5-15



AFGS-co-010

# Example 1 of Orthogonal line Theorems

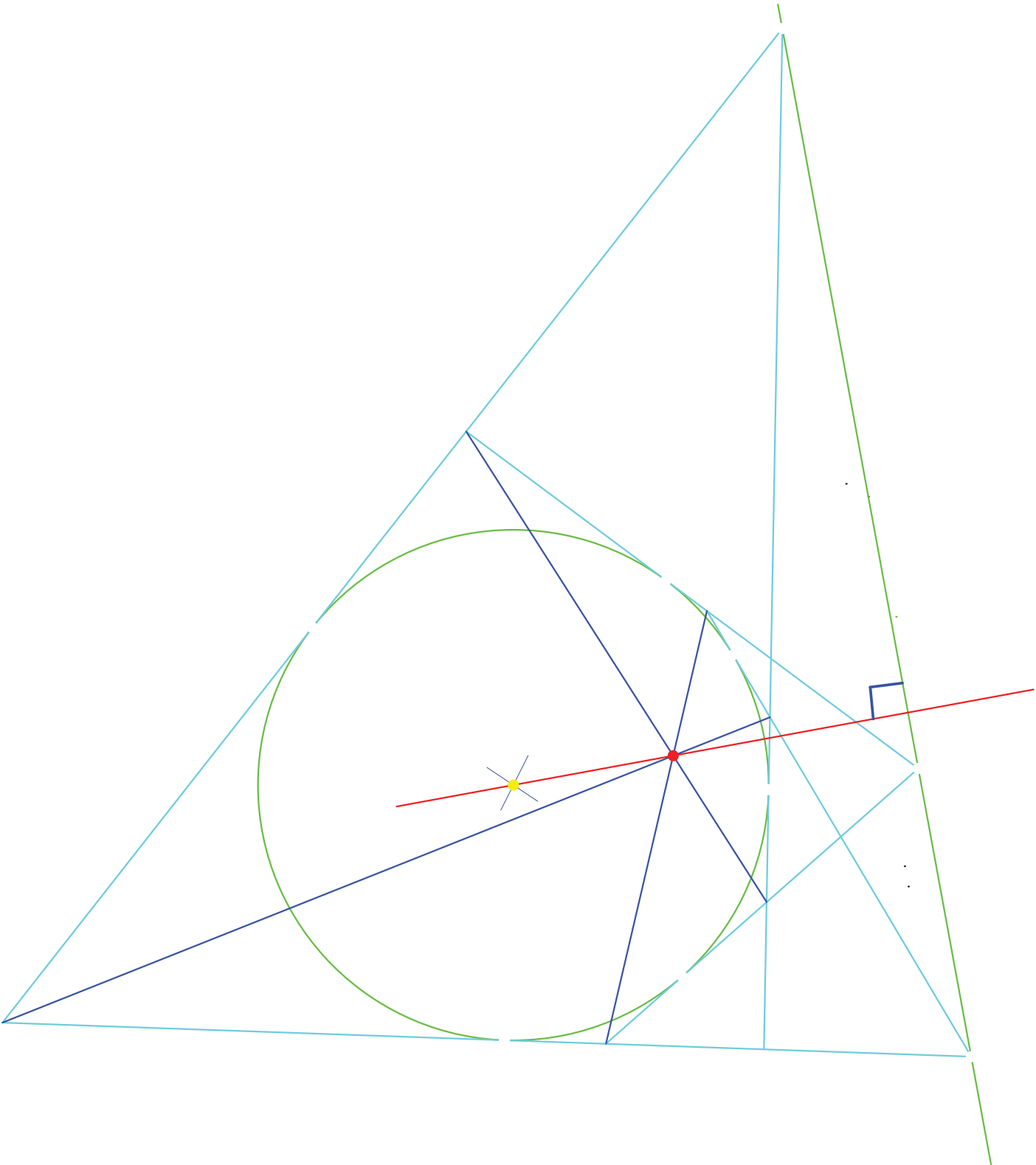
Hiroataka Ebisui



AFGS-ortho-002



Example 2 of Orthogonal line Theorems

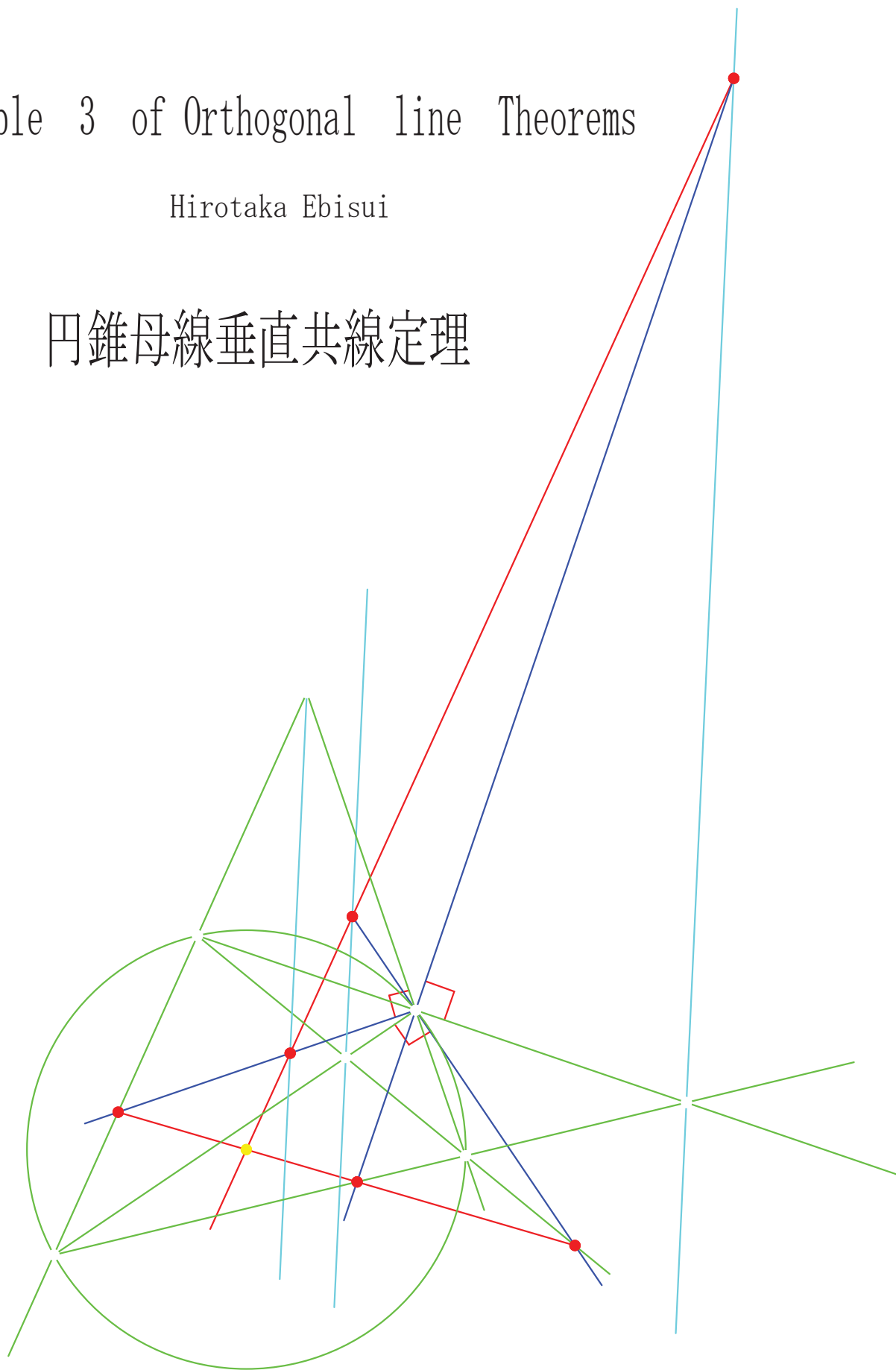


AFGS-ortho-003

# Example 3 of Orthogonal line Theorems

Hiroataka Ebisui

## 円錐母線垂直共線定理



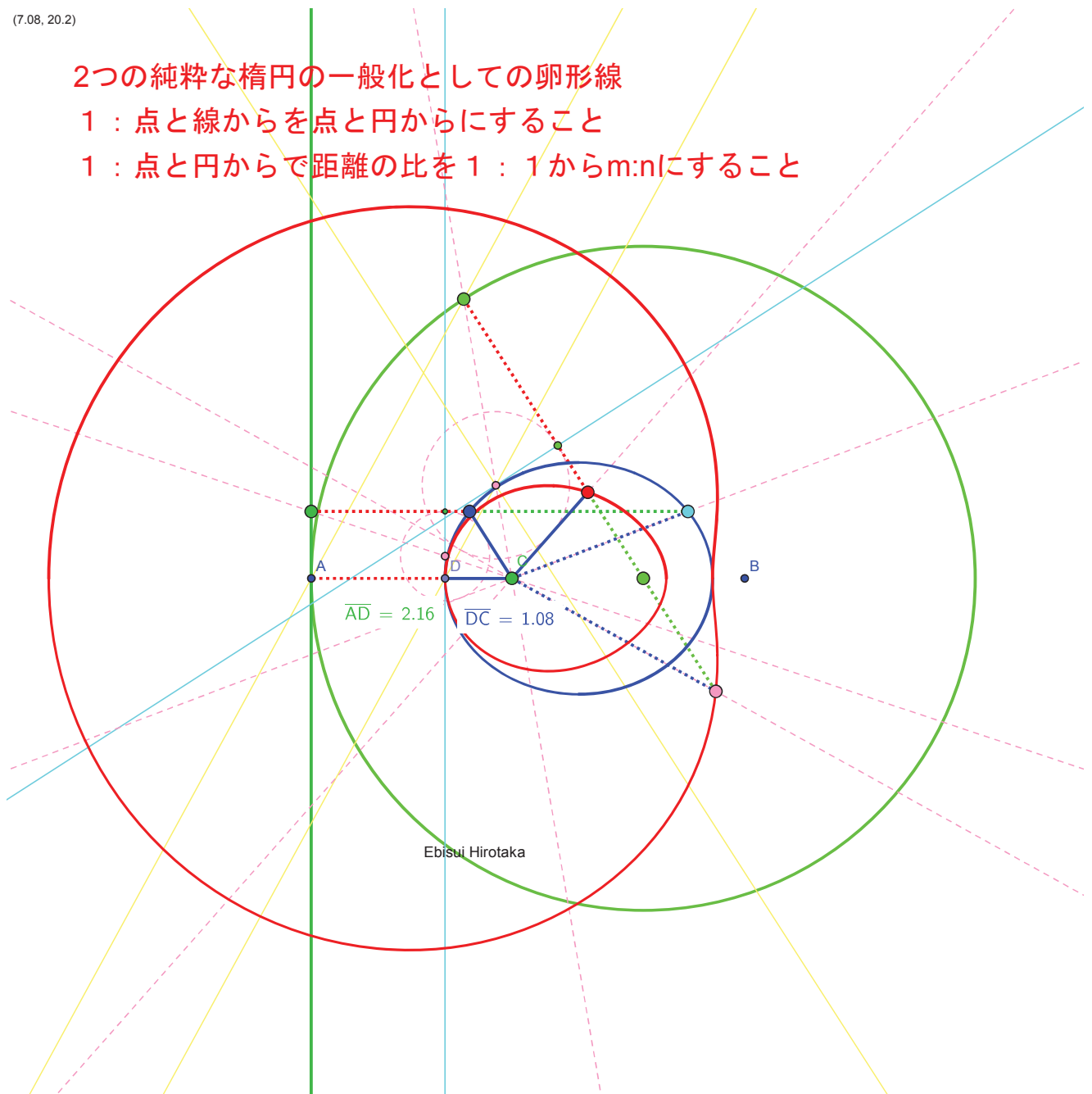
# 点と線から（点と円から） $1 : 2(m:n)$ のとき楕円と（卵形線）（日本数学 蛭子井博孝

(7.08, 20.2)

2つの純粋な楕円の一般化としての卵形線

1 : 点と線からを点と円からにすること

1 : 点と円からで距離の比を  $1 : 1$  から  $m:n$  にすること



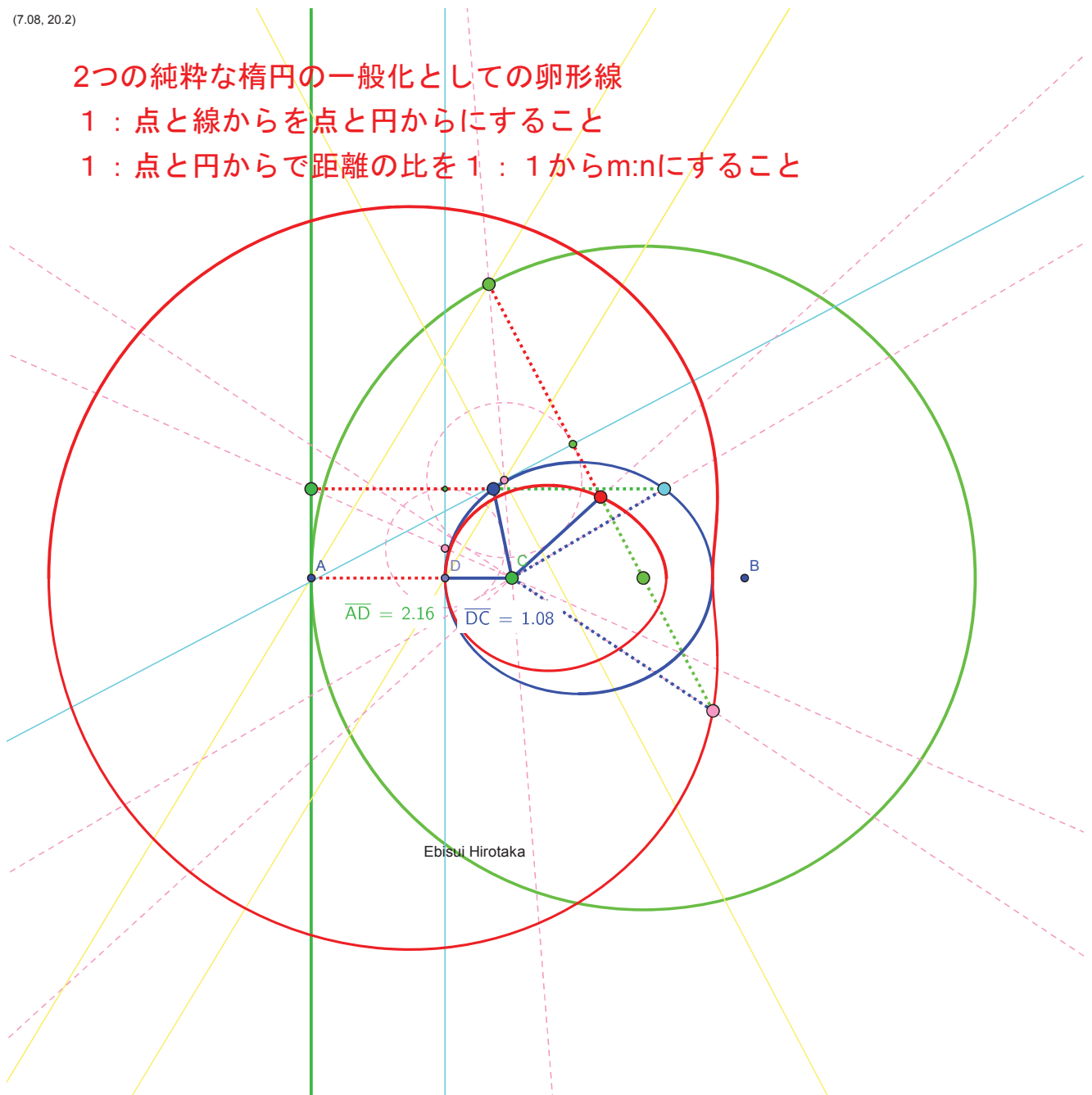
# 点と線から（点と円から） $1 : 2(m:n)$ のとき楕円と（卵形線）（日本数学 蛭子井博孝

(7.08, 20.2)

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1 : 点と円からで距離の比を  $1 : 1$  から  $m:n$  にすること



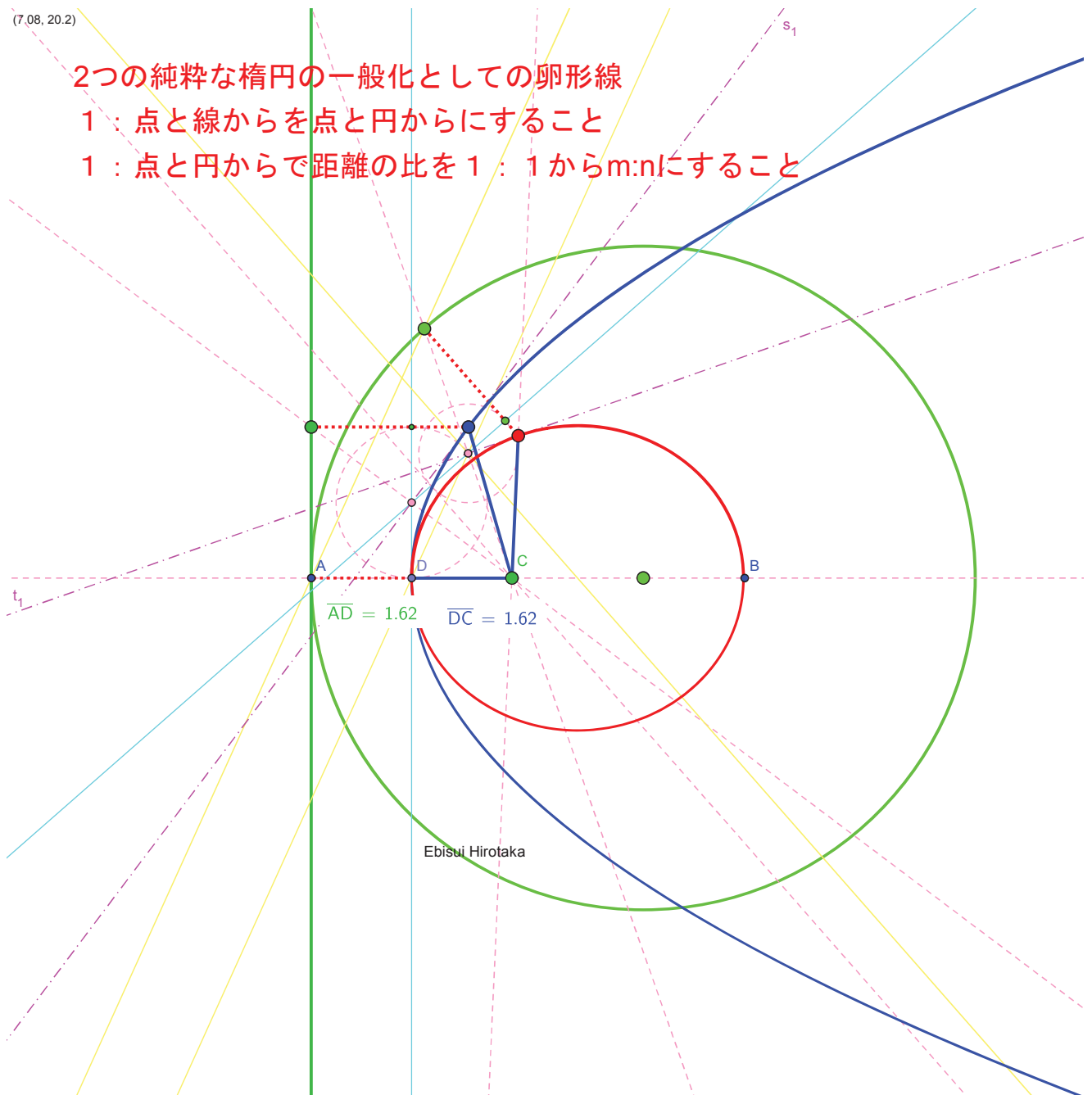
点と線から（点と円から）1 : 1のとき放物線（楕円）（日本数学会2014年  
蛭子井博孝

(7.08, 20.2)

2つの純粋な楕円の一般化としての卵形線

1 : 点と線からを点と円からにすること

1 : 点と円からで距離の比を1 : 1からm:nにすること



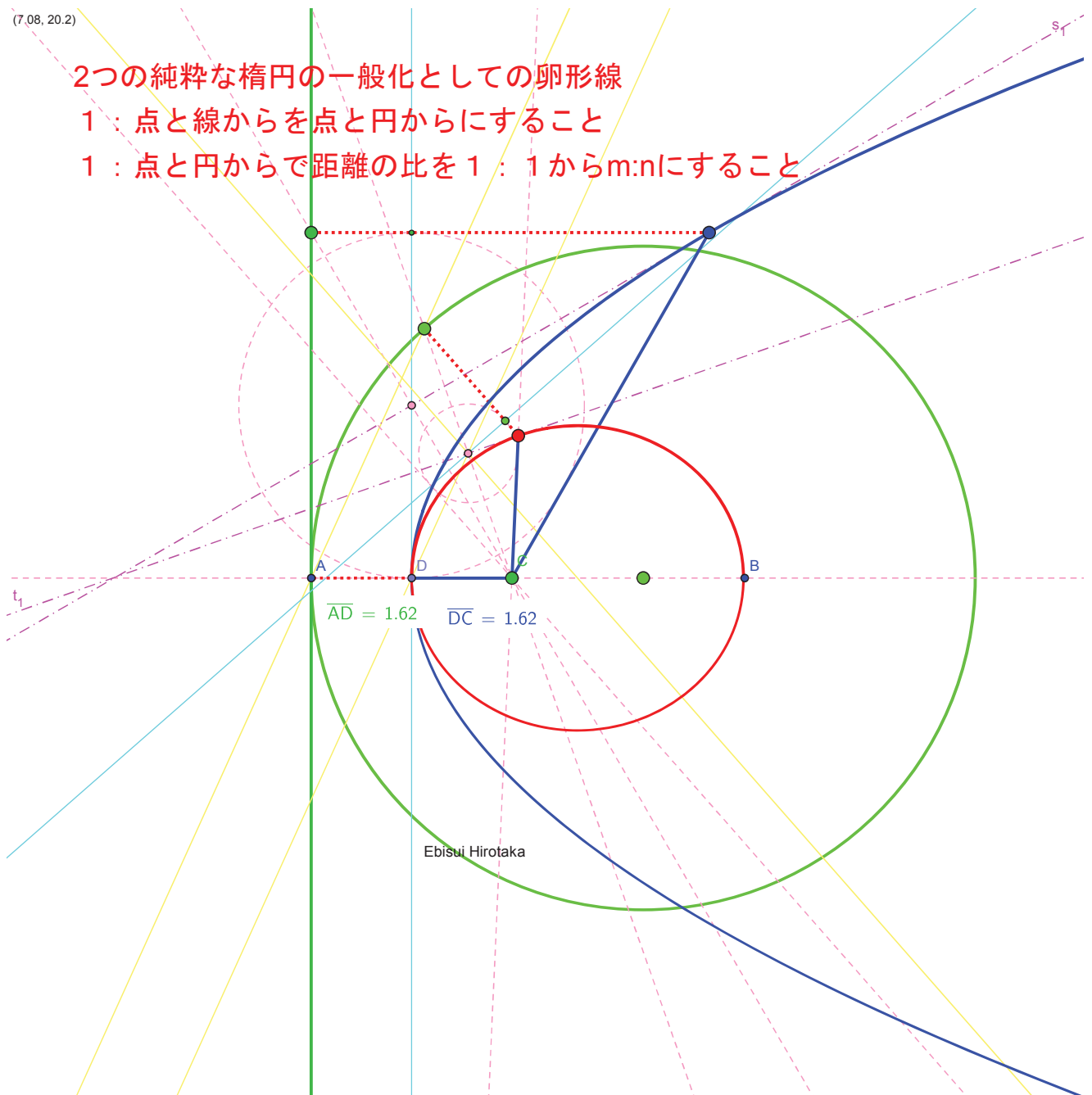
点と線から（点と円から） 1 : 1のとき放物線（楕円）（日本数学会2014年  
蛭子井博孝

(7.08, 20.2)

2つの純粋な楕円の一般化としての卵形線

1 : 点と線からを点と円からにすること

1 : 点と円からで距離の比を 1 : 1 から  $m:n$  にすること



> #  $p1^e + p2^e + p3^e + p4^e + p5^e + p6^e + p7^e = \text{prime}$  {when  $e = 1, 2, 3, 4, 5, 6, 7$ } = all prime by H.E :

>  $c := 0$  :for  $h1$  from 3 to 10 do for  $h2$  from  $h1 + 1$  to 10 do for  $h3$  from  $h2 + 1$  to 25 do for  $h4$  from  $h3 + 1$  to 50 do for  $h5$  from  $h4 + 1$  to 60 do for  $h6$  from  $h5 + 1$  to 70 do for  $h7$  from  $h6 + 1$  to 80 do for  $e$  from 1 to 7 do  $SP || e := \text{ithprime}(h1)^e + \text{ithprime}(h2)^e + \text{ithprime}(h3)^e + \text{ithprime}(h4)^e + \text{ithprime}(h5)^e + \text{ithprime}(h6)^e + \text{ithprime}(h7)^e$  :od:if  $\text{isprime}(SP || 1)$  and  $\text{isprime}(SP || 2)$  and  $\text{isprime}(SP || 3)$  and  $\text{isprime}(SP || 4)$  and  $\text{isprime}(SP || 5)$  and  $\text{isprime}(SP || 6)$  and  $\text{isprime}(SP || 7)$  then  $c := c + 1$  : print ( {  $\text{ithprime}(h1)[h1], \text{ithprime}(h2)[h2], \text{ithprime}(h3)[h3], \text{ithprime}(h4)[h4], \text{ithprime}(h5)[h5], \text{ithprime}(h6)[h6], \text{ithprime}(h7)[h7]$  } ) : print (  $\text{PrimeSumPrime}[ [P[SP || 1], P[SP || 2]^2, P[SP || 3]^3, P[SP || 4]^4, P[SP || 5]^5, P[SP || 6]^6, P[SP || 7]^7 ] ] [c]$  ) : print ( ) fi:od:od:od:od:od:od:od: {  $5_3, 7_4, 11_5, 13_6, 17_7, 23_9, 271_{58}$  }

$\text{PrimeSumPrime} \left[ \begin{matrix} P_{347}, P_{74623}^2, P_{19923587}^3, P_{5393990071}^4, P_{1461668718827}^5, P_{396110123010223}^6 \\ P_{107345798750789267}^7 \end{matrix} \right]_1$

{  $5_3, 7_4, 11_5, 13_6, 173_{40}, 347_{69}, 397_{78}$  }

$\text{PrimeSumPrime} \left[ \begin{matrix} P_{953}, P_{308311}^2, P_{109534409}^3, P_{40234715431}^4, P_{15047600972633}^5, P_{5687639483459191}^6 \\ P_{2164701257118689129}^7 \end{matrix} \right]_2$

{  $5_3, 7_4, 13_6, 17_7, 71_{20}, 97_{25}, 101_{26}$  }

$\text{PrimeSumPrime} \left[ \begin{matrix} P_{311}, P_{25183}^2, P_{2308463}^3, P_{218116471}^4, P_{20903481191}^5, P_{2022621537103}^6, P_{197107413836063}^7 \end{matrix} \right]_3$

{  $5_3, 7_4, 13_6, 43_{14}, 59_{17}, 263_{56}, 349_{70}$  }

$\text{PrimeSumPrime} \left[ \begin{matrix} P_{739}, P_{196543}^2, P_{60987547}^3, P_{19635401911}^4, P_{6436730298259}^5, P_{2137953988895983}^6 \\ P_{717671901785402827}^7 \end{matrix} \right]_4$

{  $5_3, 7_4, 13_6, 73_{21}, 101_{26}, 197_{45}, 223_{48}$  }

$\text{PrimeSumPrime} \left[ \begin{matrix} P_{619}, P_{104311}^2, P_{20156923}^3, P_{4111602151}^4, P_{860765921419}^5, P_{182643083893591}^6 \\ P_{39057456137468443}^7 \end{matrix} \right]_5$

{  $5_3, 7_4, 17_7, 37_{12}, 131_{32}, 241_{53}, 313_{65}$  }

$\text{PrimeSumPrime} \left[ \begin{matrix} P_{751}, P_{174943}^2, P_{46965943}^3, P_{13267788151}^4, P_{3855790803391}^5, P_{1141286207791183}^6 \\ P_{342195052741886983}^7 \end{matrix} \right]_6$

{  $5_3, 7_4, 17_7, 41_{13}, 89_{24}, 107_{28}, 233_{51}$  }

$\text{PrimeSumPrime} \left[ \begin{matrix} P_{499}, P_{75703}^2, P_{14653651}^3, P_{3144029671}^4, P_{706446729139}^5, P_{162008212557463}^6 \\ P_{37486338931777171}^7 \end{matrix} \right]_7$

{  $5_3, 7_4, 17_7, 61_{18}, 73_{21}, 127_{31}, 131_{32}$  }

$$\text{PrimeSumPrime} \left[ \begin{matrix} P \\ 421, P^2 \\ 42703, P^3 \\ 4917853, P^4 \\ 596975191, P^5 \\ 74536966741, P^6 \\ 9452664930463, P^7 \\ 1209129034661773 \end{matrix} \right]_8$$

$$\{5_3, 7_4, 17_7, 79_{22}, 83_{23}, 197_{45}, 229_{50}\}$$

$$\text{PrimeSumPrime} \left[ \begin{matrix} P \\ 617, P^2 \\ 104743, P^3 \\ 20724569, P^4 \\ 4342691911, P^5 \\ 933490209737, P^6 \\ 203237597210983, P^7 \\ 44586752895800249 \end{matrix} \right]_9$$

$$\{5_3, 7_4, 17_7, 97_{25}, 199_{46}, 211_{47}, 293_{62}\}$$

$$\text{PrimeSumPrime} \left[ \begin{matrix} P \\ 829, P^2 \\ 179743, P^3 \\ 43346341, P^4 \\ 11009025271, P^5 \\ 2898320467789, P^6 \\ 783894267722383, P^7 \\ 216443823163401781 \end{matrix} \right]_{10}$$

$$\{5_3, 7_4, 19_8, 29_{10}, 41_{13}, 73_{21}, 349_{70}\}$$

$$\text{PrimeSumPrime} \left[ \begin{matrix} P \\ 523, P^2 \\ 130087, P^3 \\ 42998203, P^4 \\ 14867548231, P^5 \\ 5179795711723, P^6 \\ 1807133464418407, P^7 \\ 630646141889247643 \end{matrix} \right]_{11}$$

$$\{5_3, 7_4, 19_8, 37_{12}, 61_{18}, 89_{24}, 191_{43}\}$$

$$\text{PrimeSumPrime} \left[ \begin{matrix} P \\ 409, P^2 \\ 49927, P^3 \\ 7957801, P^4 \\ 1409458951, P^5 \\ 260695397689, P^6 \\ 49102340843527, P^7 \\ 9320754122456521 \end{matrix} \right]_{12}$$

$$\{5_3, 7_4, 19_8, 211_{47}, 227_{49}, 271_{58}, 311_{64}\}$$

$$\text{PrimeSumPrime} \left[ \begin{matrix} P \\ 1051, P^2 \\ 266647, P^3 \\ 71081083, P^4 \\ 19386022951, P^5 \\ 5392019020891, P^6 \\ 1525997978639287, P^7 \\ 438423338791846843 \end{matrix} \right]_{13}$$

$$\{5_3, 7_4, 23_9, 29_{10}, 157_{37}, 193_{44}, 277_{59}\}$$

$$\text{PrimeSumPrime} \left[ \begin{matrix} P \\ 691, P^2 \\ 140071, P^3 \\ 32349907, P^4 \\ 7883390791, P^5 \\ 1993994169331, P^6 \\ 518389023341671, P^7 \\ 137455112286417427 \end{matrix} \right]_{14}$$

$$\{5_3, 7_4, 23_9, 37_{12}, 83_{23}, 131_{32}, 157_{37}\}$$

$$\text{PrimeSumPrime} \left[ \begin{matrix} P \\ 443, P^2 \\ 50671, P^3 \\ 6753059, P^4 \\ 951688471, P^5 \\ 137983323083, P^6 \\ 20359639244671, P^7 \\ 3040540288032179 \end{matrix} \right]_{15}$$

$$\{5_3, 7_4, 23_9, 41_{13}, 191_{43}, 227_{49}, 383_{76}\}$$

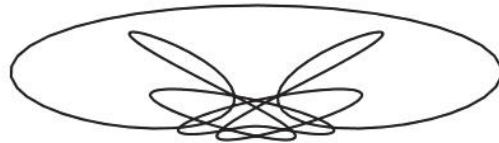
$$\text{PrimeSumPrime} \left[ \begin{matrix} P \\ 877, P^2 \\ 236983, P^3 \\ 74928397, P^4 \\ 25506872551, P^5 \\ 9098321026477, P^6 \\ 3341782302135703, P^7 \\ 1249234915284327757 \end{matrix} \right]_{16}$$

$$\{5_3, 7_4, 23_9, 61_{18}, 73_{21}, 277_{59}, 383_{76}\}$$

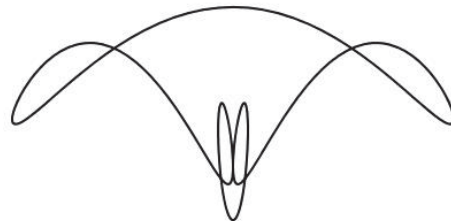
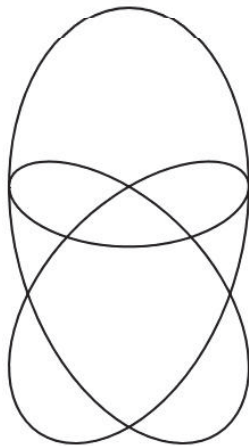
$$\text{PrimeSumPrime} \left[ \begin{matrix} P \\ 829, P^2 \\ 233071, P^3 \\ 78064453, P^4 \\ 27447529111, P^5 \\ 9874981971469, P^6 \\ 3608337097619071, P^7 \\ 1334046207069688213 \end{matrix} \right]_{17}$$



数 2 0 1 5 年



数 9 月 数 1 7 日



あとがき

数をグラフ化して、私は、もう、この世の仕事は、終わったぐらいに思っている。それほど、大切な仕事である。数を素因数分解して、グラフ化しようと思ったが、できなかった。2, 3進数に分解しないと。これを書き、また、新たなグラフ化を思いついた。素因数の和の2進数化と、素因数を使い  $x$ 、 $y$  に直す方法、今からやろう。ではまた。そして、65 ページの幾何数学明書を締めくくる。3進数を持ちいた。96君が出た。