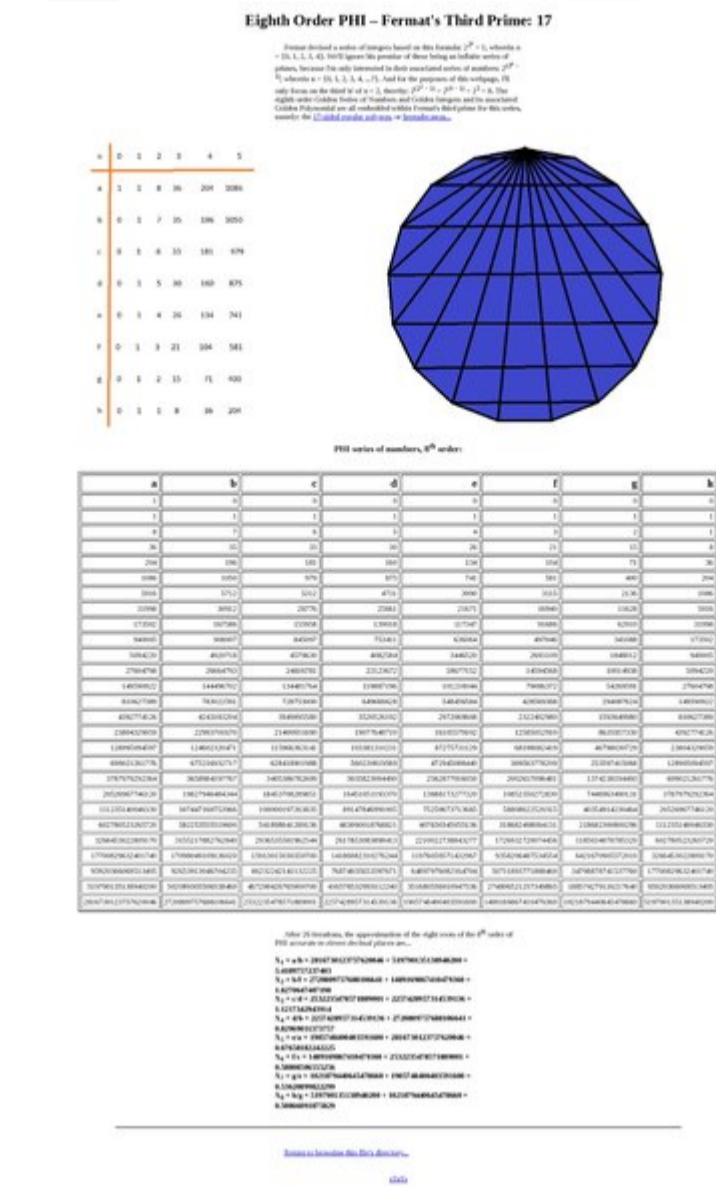


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English: A Golden Ratio from Fermat's third prime, the integer: 17.

Summary [\[edit \]](#)

Description	English: Fermat's third prime, the number 17, can form an equilateral polygon which contains proportional relations among the lengths of its side and its various diagonals which are the roots of an eighth order polynomial in one unknown. For comparison, the <i>Golden ratio</i> derived from the proportionalities among the <i>Fibonacci series</i> of numbers forms the additive and multiplicative reciprocal roots of a second order, quadratic polynomial.
Date	4 January 2023
Source	Own work
Author	Vinyasi

Infinite Range of Golden Ratios

$a = 1$

$a + b = c$

$a^2 + b^2 = c^2$

$a + b + c = 1$

$a^2 + b^2 + c^2 = 1$

$a^3 + b^3 + c^3 = 1$

$a^4 + b^4 + c^4 = 1$

$a^5 + b^5 + c^5 = 1$

$a^6 + b^6 + c^6 = 1$

$a^7 + b^7 + c^7 = 1$

$a^8 + b^8 + c^8 = 1$

$a^9 + b^9 + c^9 = 1$

$a^{10} + b^{10} + c^{10} = 1$

$a^{11} + b^{11} + c^{11} = 1$

$a^{12} + b^{12} + c^{12} = 1$

$a^{13} + b^{13} + c^{13} = 1$

$a^{14} + b^{14} + c^{14} = 1$

$a^{15} + b^{15} + c^{15} = 1$

$a^{16} + b^{16} + c^{16} = 1$

$a^{17} + b^{17} + c^{17} = 1$

$a^{18} + b^{18} + c^{18} = 1$

$a^{19} + b^{19} + c^{19} = 1$

$a^{20} + b^{20} + c^{20} = 1$

$a^{21} + b^{21} + c^{21} = 1$

$a^{22} + b^{22} + c^{22} = 1$

$a^{23} + b^{23} + c^{23} = 1$

$a^{24} + b^{24} + c^{24} = 1$

$a^{25} + b^{25} + c^{25} = 1$

$a^{26} + b^{26} + c^{26} = 1$

$a^{27} + b^{27} + c^{27} = 1$

$a^{28} + b^{28} + c^{28} = 1$

$a^{29} + b^{29} + c^{29} = 1$

$a^{30} + b^{30} + c^{30} = 1$

$a^{31} + b^{31} + c^{31} = 1$

$a^{32} + b^{32} + c^{32} = 1$

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$a^{35} + b^{35} + c^{35} = 1$

$a^{36} + b^{36} + c^{36} = 1$

$a^{37} + b^{37} + c^{37} = 1$

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$a^{39} + b^{39} + c^{39} = 1$

$a^{40} + b^{40} + c^{40} = 1$

$a^{41} + b^{41} + c^{41} = 1$

$a^{42} + b^{42} + c^{42} = 1$

$a^{43} + b^{43} + c^{43} = 1$

$a^{44} + b^{44} + c^{44} = 1$

$a^{45} + b^{45} + c^{45} = 1$

$a^{46} + b^{46} + c^{46} = 1$

$a^{47} + b^{47} + c^{47} = 1$

$a^{48} + b^{48} + c^{48} = 1$

$a^{49} + b^{49} + c^{49} = 1$

$a^{50} + b^{50} + c^{50} = 1$

$a^{51} + b^{51} + c^{51} = 1$

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$a^{61} + b^{61} + c^{61} = 1$

$a^{62} + b^{62} + c^{62} = 1$

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$a^{66} + b^{66} + c^{66} = 1$

$a^{67} + b^{67} + c^{67} = 1$

$a^{68} + b^{68} + c^{68} = 1$

$a^{69} + b^{69} + c^{69} = 1$

$a^{70} + b^{70} + c^{70} = 1$

$a^{71} + b^{71} + c^{71} = 1$

$a^{72} + b^{72} + c^{72} = 1$

$a^{73} + b^{73} + c^{73} = 1$

$a^{74} + b^{74} + c^{74} = 1$

$a^{75} + b^{75} + c^{75} = 1$

$a^{76} + b^{76} + c^{76} = 1$

$a^{77} + b^{77} + c^{77} = 1$

$a^{78} + b^{78} + c^{78} = 1$

$a^{79} + b^{79} + c^{79} = 1$

$a^{80} + b^{80} + c^{80} = 1$

$a^{81} + b^{81} + c^{81} = 1$

$a^{82} + b^{82} + c^{82} = 1$

$a^{83} + b^{83} + c^{83} = 1$

$a^{84} + b^{84} + c^{84} = 1$

$a^{85} + b^{85} + c^{85} = 1$

$a^{86} + b^{86} + c^{86} = 1$

$a^{87} + b^{87} + c^{87} = 1$

$a^{88} + b^{88} + c^{88} = 1$

$a^{89} + b^{89} + c^{89} = 1$

$a^{90} + b^{90} + c^{90} = 1$

$a^{91} + b^{91} + c^{91} = 1$

$a^{92} + b^{92} + c^{92} = 1$

$a^{93} + b^{93} + c^{93} = 1$

$a^{94} + b^{94} + c^{94} = 1$

$a^{95} + b^{95} + c^{95} = 1$

$a^{96} + b^{96} + c^{96} = 1$

$a^{97} + b^{97} + c^{97} = 1$

$a^{98} + b^{98} + c^{98} = 1$

$a^{99} + b^{99} + c^{99} = 1$

$a^{100} + b^{100} + c^{100} = 1$

The Golden ratio of the eighth order polynomial is a subset of the Infinite Range of Golden Ratios.

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