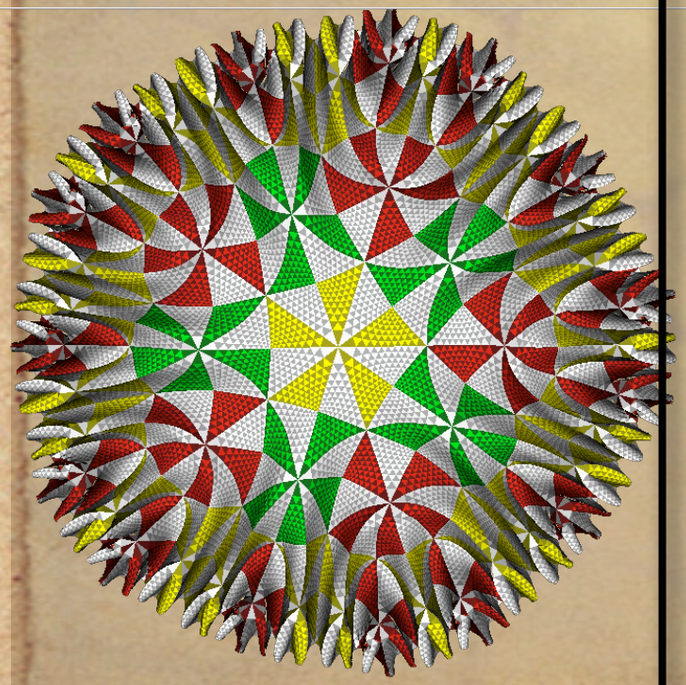
Happy New Year 2009



27 Dec 2008

GIFT. *Define the "equiharmonic numbers" by*

$$K_\nu := \frac{(6\nu)!}{\Omega^{6\nu}} \sum_{(n_1,n_2)\in(\mathbb{Z}\times\mathbb{Z})\setminus\{(0,0)\}} \frac{1}{(n_1 e^{-2i\pi/3} + n_2 e^{2i\pi/3})^{6\nu}}, \qquad \Omega := \frac{1}{2\pi}\Gamma\left(\frac{1}{3}\right)^3.$$

The generating function of (K_ν) *admits the continued fraction representation*

$$\frac{7}{36}\sum_{\nu\geq 1} K_\nu z^{\nu-1} = \cfrac{1}{1-\cfrac{d_1\cdot z}{1-\cfrac{d_2\cdot z}{\ddots}}},$$

where $d_1 = \frac{10880}{13}$, $d_2 = \frac{13810240}{247}$, $d_n = \frac{1}{4}\dfrac{(3n)(3n+1)^2(3n+2)^2(3n+3)^2(3n+4)}{(6n+1)(6n+7)}$.