

【Review article】

$\zeta(3)$

Toshiro Takami
mmm82889@yahoo.co.jp

【Abstract】

$\zeta(3)$ was obtained by another method.

$$\sum_{k=1}^{\infty} \frac{1}{k^2 \times 2^{k-1}} + \log^2(2)$$

$$\sum_{k=1}^{\infty} \frac{1}{k^2 \times 2^{k-1}} + (\log 2)^2 = \pi^2/6 = \zeta(2)$$

$$\sum_{k=1}^{\infty} \frac{1}{k^3 \times 2^{k-1}} + \log^3(2)$$

$$\sum_{k=1}^{\infty} \frac{1}{k^3 \times 2^{k-1}} + (\log 2)^3 \approx 1.40745$$
$$= \frac{1}{12} (21 \zeta(3) + 4 \log^3(2) - \pi^2 \log(4)) + \log^3(2) \approx 1.40745$$

$$\zeta(3) = 1.202056903160.....$$

【discussion】

$$\sum_{k=1}^{\infty} \frac{1}{k^2 \times 2^{k-1}} + \log^2(2)$$

$$\sum_{k=1}^{\infty} \frac{1}{k^2 \times 2^{k-1}} + (\log 2)^2 = \pi^2/6 = \zeta(2)$$

$$\sum_{k=1}^{\infty} \frac{1}{k^3 \times 2^{k-1}} + \log^3(2)$$

$$\sum_{k=1}^{\infty} \frac{1}{k^3 \times 2^{k-1}} + (\log 2)^3 \approx 1.40745$$

$$\frac{1}{12} (21 \zeta(3) + 4 \log^3(2) - \pi^2 \log(4)) + \log^3(2) \approx 1.40745$$

$$\begin{aligned} (1/12) * \{ (21 \zeta(3) + 4 * \log^3(2) - \pi^2 * [\log(4)]) \} + [\log(2)]^3 = \\ (1/12) * [21 * \zeta(3) + 4 * \log^3(2) - \pi^2 \log(4)] + \\ [\log(2)]^3 = 1.4074510392050098816001000338016621974969.. \end{aligned}$$

$$\begin{aligned} (1/12) * [21 * \zeta(3) + 4 * \log^3(2) - \pi^2 \log(4)] \\ = 1.407451039295 - [\log(2)]^3 \end{aligned}$$

$$\begin{aligned} [21 * \zeta(3) + 4 * \log^3(2) - \pi^2 \log(4)] \\ = \{ 1.407451039295 - [\log(2)]^3 \} * 12 \end{aligned}$$

$$\begin{aligned} 21 * \zeta(3) = \{ 1.407451039205 - [\log(2)]^3 \} * 12 - 4 * \\ \log^3(2) + \pi^2 \log(4) \end{aligned}$$

$$\begin{aligned} \zeta(3) = [\{ 1.407451039205 - [\log(2)]^3 \} * 12 - 4 * \log^3(2) + \pi^2 \\ \log(4)] * (1/21) = 1.202056903160..... \end{aligned}$$

$$\zeta(3) = 1.2020569031595942853997.....$$

References

1) https://en.wikipedia.org/wiki/Riemann_hypothesis

postscript

I use wolframAlpha.



I am a psychiatrist now and also a doctor of brain surgery before.



(home)

〒854-0067

47-8 kuyamadai, Isahaya City, Nagasaki Prefecture, Japan

mmm82889@yahoo.co.jp

I would like to receive an email. I will not answer the phone.

Currently 57 years old

Born on November 26, 1961

(I am very poor of English. Almost all document are google-translation.)

When converted to English by Google translation, it becomes cryptic to me.

But, I read letter by google translation.

In my case, if you translate it into English by google translation, I do not know what is written in my paper. For me, foreign languages such as English (actually not good at Japanese) is a demon.

As soon as it is translated into English, it turns.

