

Re: A Formula for Pi

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- *From:* Maury Barbato <mauriziobarbato@xxxxxxxx>
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Jose Carlos Santos wrote:

On 20-06-2008 7:16, Maury Barbato wrote:

I found in the book "The Penguin Dictionary of Curious and Interesting Numbers" by Wells the following formula involving pi

$$\begin{aligned}(\pi - 3)/4 &= \\ &= \sum_{k=1}^{\infty} [(-1)^{k+1}] / [2k \cdot (2k+1) \cdot (2k+2)]\end{aligned}$$

Is there anybody who knows a proof of this

wonderful

series?

You already got a reply. I only want to remark that the formula is equivalent to

$$\begin{aligned}\pi - 3 &= \sum_{k=1}^{\infty} (-1)^{k+1} / (k(2k+1)(k+1)) \\ &= \sum_{k=1}^{\infty} (-1)^{k+1} / (1^2 + 1) / (1^2 + 2^2 + \dots + k^2).\end{aligned}$$

Best regards,

Jose Carlos Santos

A little slip. We have

$$\pi - 3 =$$

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$$\begin{aligned} \sum_{k=1}^{\infty} (-1)^{k+1} / [k(2k+1)(k+1)] &= \\ = (1/6) * \sum_{k=1}^{\infty} (-1)^{k+1} / (1^2 + 2^2 + \dots + k^2) \end{aligned}$$

It's a very very beautiful formula!

Thank you for your attention.

My Best Regards,

Maury Barbato