

In memory of Justynke, my wife

FORMULAS

FORMULA No.

W33

'The laws of nature are but the mathematical thoughts of God.'
Euclid



www.and-just-math.com

We are not mathematicians, but we love mathematics and create formulas ourselves.

'No other science boosts the faith in the strength of the human spirit like mathematics.'
Hugo Steinhaus

1 WEEK = 7 DAYS
=
7 FORMULAS

NEW MATHEMATICAL FORMULA DAILY

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FORMULA No.

D331

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$k \in \mathbb{N}$
 p_k (k -th prime number)

$$\sum_{k=1}^{k=\infty} \frac{(p_k^2 \times p_{k+1}^2 + p_{k+1}^2 - p_k^2) \times k^2 + 2 \times (p_k^2 + 1) \times p_{k+1}^2 \times k + (p_k^2 + 1) \times p_{k+1}^2}{k^2 \times (k+1)^2 \times p_k^2 \times p_{k+1}^2} = \frac{2 \times \pi^2 + 3}{12}$$

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{25 \times k^4 + 145 \times k^3 + 399 \times k^2 + 649 \times k + 441}{(5 \times k + 2) \times (5 \times k + 7) \times (k + 2)^2 \times (k + 3)^2} = \frac{2 \times \pi^2 - 15}{12}$$

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{(100 \times k^5 + 200 \times k^4 + 261 \times k^3 + 301 \times k^2 + 164 \times k + 24) \times (2 \times k)!}{(k+1)^2 \times (2 \times k + 1) \times (2 \times k + 3) \times (5 \times k - 4) \times (5 \times k + 1) \times k!^2 \times 2^{4 \times k + 3}} = \frac{\pi - 3}{3}$$

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$k \in \mathbb{N}$

p_k (k -th prime number)

$$\sum_{k=1}^{k=\infty} \frac{(p_k \times p_{k+1} + p_{k+1} - p_k) \times k^2 + 2 \times (2 \times p_k \times p_{k+1} + 2 \times p_{k+1} - p_k) \times k + (4 \times p_k \times p_{k+1} + 4 \times p_{k+1} - p_k)}{(k+1)^2 \times (k+2)^2 \times p_k \times p_{k+1}} = \frac{4 \times \pi^2 - 21}{24}$$

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{4 \times k^4 + 24 \times k^3 + 81 \times k^2 + 176 \times k + 144}{(k+2)^2 \times (k+3)^2 \times (k+4)^2 \times (2 \times k + 1) \times (2 \times k + 3)} = \frac{6 \times \pi^2 - 59}{18}$$

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{256 \times k^4 - 128 \times k^3 - 832 \times k^2 - 472 \times k - 693}{(4 \times k - 1) \times (4 \times k + 3) \times (16 \times k^2 - 121) \times (16 \times k^2 - 49)} = \frac{\pi}{72}$$

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$$\sum_{k=1}^{k=\infty} \frac{1}{4 \times (2 \times k - 1)^2 - 529} = \frac{\pi}{184} \quad k \in \mathbb{N}$$

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week and every day
to our website
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Thanks for:
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