

*In memory of Justynka, my wife*

# FORMULAS

FORMULA No.

**W05**

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



[www.and-just-math.com](http://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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# FORMULAS

FORMULA No.

**D051**

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{16 \times k^4 + 32 \times k^3 - 541 \times k^2 - 1799 \times k - 2484}{(k+1) \times (k+2) \times (16 \times k^2 - 729) \times (16 \times k^2 - 529)} = \frac{\pi}{200}$$

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FORMULA No.

**D052**

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$$\sum_{k=1}^{k=\infty} \frac{1}{16 \times k^2 - 1225} = \frac{35 \times \pi + 4}{9800} \quad k \in \mathbb{N}$$

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{k^5 + 11 \times k^4 + 69 \times k^3 + 284 \times k^2 + 640 \times k + 576}{(k+2)^4 \times (k+3)^4 \times (k+4)^3} = \frac{533 - 54 \times \pi^2}{54}$$

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FORMULA No.

**D054**

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$k \in \mathbb{N}$

$$\sum_{k=1}^{k=\infty} \frac{(36 \times k^5 + 276 \times k^4 + 997 \times k^3 + 1688 \times k^2 + 1315 \times k + 384) \times (2 \times k)!}{(k+1)^2 \times (2 \times k + 1) \times (2 \times k + 3) \times (3 \times k + 1) \times (3 \times k + 4) \times k!^2 \times 2^{4 \times k + 3}} = \frac{\pi - 3}{3}$$

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# FORMULAS

FORMULA No.

**D055**

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{k! \times (k+1)! \times [8 \times k^3 + 16 \times k^2 + 5 \times k - 1 + (k+1) \times (2 \times k + 1)!] \times 2^{k+2}}{(2 \times k + 1)! \times (2 \times k + 3)!} = \pi - 2$$

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**D056**

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$$\sum_{k=1}^{k=\infty} \frac{1}{4 \times (2 \times k - 1)^2 - 841} = \frac{\pi}{232} \quad k \in \mathbb{N}$$

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**D057**

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$k \in \mathbb{N}$

$$\sum_{k=1}^{k=\infty} \frac{400 \times k^4 - 640 \times k^3 + 571 \times k^2 + 47 \times k + 15}{(4 \times k - 3) \times (5 \times k - 4) \times (5 \times k + 1) \times (16 \times k^2 - 1) \times [16 \times (k + 1)^2 - 1]} = \frac{\pi - 2}{16}$$

**NEW MATHEMATICAL FORMULA DAILY**





We invite you every  
week and every day  
to our website  
[www.and-just-math.com](http://www.and-just-math.com)

Thanks for:  
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Photo Gordon Johnson z Pixabay  
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