

*In memory of Justynka, my wife*

# FORMULAS

FORMULA No.

**W45**

'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

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Euclid

FORMULA No.

**D451**

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$$\sum_{k=1}^{k=\infty} \frac{1}{4 \times (2 \times k - 1)^2 - 1849} = - \frac{\pi}{344} \quad k \in \mathbb{N}$$

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# FORMULAS

FORMULA No.

**D452**

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$k \in \mathbb{N}$

$$\sum_{k=1}^{k=\infty} \frac{49 \times k^4 + 175 \times k^3 + 123 \times k^2 - 85 \times k - 27}{(k+1)^2 \times (k+2)^2 \times (7 \times k - 5) \times (7 \times k + 2)} = \frac{4 \times \pi^2 - 21}{24}$$

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{64 \times k^4 + 256 \times k^3 + 716 \times k^2 + 944 \times k + 375}{(2 \times k + 3) \times (2 \times k + 5) \times (16 \times k^2 - 1) \times [16 \times (k + 1)^2 - 1]} = \frac{4 - \pi}{8}$$

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{49 \times k^4 + 301 \times k^3 + 891 \times k^2 + 1531 \times k + 1089}{(7 \times k + 4) \times (7 \times k + 11) \times (k + 2)^2 \times (k + 3)^2} = \frac{2 \times \pi^2 - 15}{12}$$

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# FORMULAS

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**D455**

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$$\sum_{k=1}^{k=\infty} \frac{4 \times k^4 + 24 \times k^3 + 57 \times k^2 + 60 \times k + 23}{(k+1)^2 \times (k+2)^2 \times (2 \times k + 1) \times (2 \times k + 3)} = \frac{2 \times \pi^2 - 11}{12} \quad k \in \mathbb{N}$$

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{25 \times k^4 + 145 \times k^3 + 309 \times k^2 + 275 \times k + 82}{(k+1)^2 \times (k+2)^2 \times (5 \times k + 2) \times (5 \times k + 7)} = \frac{14 \times \pi^2 - 81}{84}$$

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{144 \times k^4 - 192 \times k^3 + 187 \times k^2 + 7 \times k + 3}{(3 \times k - 2) \times (3 \times k + 1) \times (16 \times k^2 - 9) \times (16 \times k^2 - 1)} = \frac{\pi}{8}$$

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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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