

*In memory of Justynka, my wife*

# FORMULAS

FORMULA No.

W11

'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.

D111

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$k \in \mathbb{N}$

$$\sum_{k=1}^{k=\infty} \frac{[(10 \times k^2 + 23 \times k + 13) \times k! + 8 \times k^3 + 16 \times k^2 + 4 \times k - 4] \times k! \times 2^{k+2}}{(2 \times k + 3)!} = 7 \times (\pi - 2)$$

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# FORMULAS

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D112

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{(k+3) \times \{(k+2) \times [(k+1) \times p_k - p_{k+1}] - p_{k+2}\} + p_{k+3}}{(k+3)!} = 1 \frac{1}{6}$$

$p_k$  ( $k$ -th prime number)

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D113

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$$\sum_{k=1}^{k=\infty} \frac{[(k-1) \times (k+1)^2 - k] \times k}{(k+2)!} = e - 1 \quad k \in \mathbb{N}$$

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# FORMULAS

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FORMULA No.

D114

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$k \in \mathbb{N}$

$$\sum_{k=1}^{k=\infty} \frac{[(p_{k+1}^3 - p_k^3) \times (k+2)! + k^2 + k - 1] \times (k+1)!}{[(p_k^3 + 1) \times (k+1)! - k] \times [(p_{k+1}^3 + 1) \times (k+2)! - k - 1]} = \frac{2}{17}$$

$p_k$  ( $k$ -th prime number)

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# FORMULAS

FORMULA No.

**D115**

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{[(p_{k+1}! - p_k!) \times (k+2)! + k^2 + k - 1] \times (k+2)!}{[(p_k! + 1) \times (k+2)! - k \times (k+2)] \times [(p_{k+1}! + 1) \times (k+2)! - k - 1]} = \frac{2}{5}$$

$p_k$  ( $k$ -th prime number)

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# FORMULAS

FORMULA No.

**D116**

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$$\sum_{k=1}^{k=\infty} \frac{k \times [3 \times (k + 2) \times k! + 2]}{(k + 1)! \times (3 \times k! + 2) \times [3 \times (k + 1)! + 2]} = \frac{1}{5} \quad k \in \mathbb{N}$$

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FORMULA No.

**D117**

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$$\sum_{k=1}^{k=\infty} \frac{25 \times k^4 + 95 \times k^3 + 89 \times k^2 - 15 \times k - 13}{(k+1)^2 \times (k+2)^2 \times (5 \times k - 3) \times (5 \times k + 2)} = \frac{4 \times \pi^2 - 21}{24} \quad k \in \mathbb{N}$$

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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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Photo Gordon Johnson z Pixabay  
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