

*In memory of Justynka, my wife*

# FORMULAS

FORMULA No.

**W03**

'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.

**D031**

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{5 \times (k+1) \times p_{k+4} \times p_{k+2}! - p_{k+3} \times p_{k+1}!}{5^k \times (k+1)! \times p_{k+1}! \times p_{k+2}! \times p_{k+3} \times p_{k+4}} = \frac{1}{42}$$

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

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FORMULA No.

**D032**

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$$\sum_{k=1}^{k=\infty} \frac{2^{k+3} \times [(k+2) \times p_{k+3}! - 2 \times p_{k+2}!]}{(k+2)! \times p_{k+2}! \times p_{k+3}!} = \frac{1}{15} \quad k \in N$$

*p<sub>k</sub> (k-th prime number)*

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**D033**

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$k \in \mathbb{N}$

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

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

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# FORMULAS

FORMULA No.

**D034**

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{4 \times k \times (k+1) \times (k+2) \times p_k^2 \times p_{k+1}^2 + (k^2 + k - 2) \times (k+2)^2 \times p_{k+1}^2 - (k+3) \times k^3 \times p_k^2}{k^2 \times (k+1)^2 \times (k+2)^2 \times p_k^2 \times p_{k+1}^2} = 1$$

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

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# FORMULAS

FORMULA No.

**D035**

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{(p_{k+1} - p_k + p_k \times p_{k+1}) \times k + 3 \times p_{k+1} - p_k + 3 \times p_k \times p_{k+1}}{(k+1) \times (k+2) \times (k+3) \times p_k \times p_{k+1}} = \frac{7}{12}$$

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

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**D036**

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$k \in \mathbb{N}$

$$\sum_{k=1}^{k=\infty} \frac{(p_k + 1) \times p_{k+1} \times (p_{k+2} - p_{k+1}) \times (p_{k+3} - 1) - p_k \times (p_{k+1} - 1) \times (p_{k+3} - p_{k+2})}{p_k \times p_{k+1} \times (p_{k+1} - 1) \times (p_{k+2} - 1) \times (p_{k+3} - 1)} = \frac{5}{8}$$

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

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**D037**

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$k \in N$

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

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

**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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