

*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

FORMULA No.

**D451**

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{(p_k + 1) \times p_{k+1} \times p_{k+3}^2 \times p_{k+4} + p_k \times p_{k+2} \times p_{k+3} \times p_{k+5} - [p_k + (p_k + 1) \times p_{k+1}] \times p_{k+2} \times p_{k+4}^2}{p_k \times p_{k+1} \times p_{k+2} \times p_{k+3} \times p_{k+4}} = \frac{11}{35}$$

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

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{(p_{k+2} - p_{k+1}) \times k + 6 \times (p_{k+2} - p_k) \times p_{k+1} + p_{k+2}}{p_{k+1} \times p_{k+2} \times (6 \times p_k + k) \times (6 \times p_{k+1} + k + 1)} = \frac{1}{39}$$

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

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

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

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$k \in \mathbb{N}$

$$\sum_{k=1}^{k=\infty} \frac{(p_k + 1) \times p_{k+1} \times (p_{k+4} - p_{k+2}) \times p_{k+5} - p_k \times p_{k+2} \times (p_{k+5} - p_{k+3})}{p_k \times p_{k+1} \times p_{k+2} \times p_{k+3} \times p_{k+4} \times p_{k+5}} = \frac{2}{55}$$

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

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$$\sum_{k=1}^{k=\infty} \frac{(k+3) \times (p_k! - 1) \times p_{k+1}! - p_{k+1}! + p_k!}{(k+4)! \times p_k! \times p_{k+1}!} = \frac{1}{48} \quad k \in \mathbb{N}$$

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

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{[(8 \times p_k^2 + 9 \times p_{k+2}^2) \times p_{k+1}^2 - 17 \times p_k^2 \times p_{k+2}^2] \times 2^{3 \times k - 1}}{p_k^2 \times p_{k+1}^2 \times p_{k+2}^2 \times 3^{2 \times k - 2}} = 5$$

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

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$$\sum_{k=1}^{k=\infty} \frac{[(k+1) \times (p_k^2 + 1) \times p_{k+1}^2 - 5 \times p_k^2] \times 5^k}{p_k^2 \times p_{k+1}^2 \times (k+1)!} = e^5 + \frac{1}{4} \quad k \in N$$

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

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We invite you every  
week and every day  
to our website  
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Thanks for:  
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Photo Gordon Johnson z Pixabay  
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