

*In memory of Justynka, my wife*

# FORMULAS

FORMULA No.

**W46**

'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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$k \in \mathbb{N}$

$$\sum_{k=1}^{k=\infty} \frac{k \times (p_{k+3} \times p_{k+4} + p_{k+4} \times p_{k+5} - 2 \times p_{k+3} \times p_{k+5})}{p_{k+3} \times p_{k+4} \times p_{k+5}} = \frac{1}{7}$$

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

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$$\sum_{k=1}^{k=\infty} \frac{2 \times (k+1) \times p_{k+2} \times p_{k+7} - p_{k+1} \times p_{k+6}}{p_{k+1} \times p_{k+2} \times p_{k+6} \times p_{k+7} \times (k+1)! \times 2^k} = \frac{1}{51}$$

$k \in N$

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

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{(p_{k+2} + k - 1) \times [7 \times p_{k+3} - 8 \times p_{k+2} + p_{k+1} + 6]}{(p_{k+2} - p_{k+1} + 1) \times (p_{k+3} - p_{k+2} + 1) \times 7^k} = 1 \frac{5}{6}$$

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

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{3 \times (k+1) \times p_{k+4} \times p_{k+2}! - p_{k+3} \times p_{k+1}!}{p_{k+3} \times p_{k+4} \times 3^{k-1} \times (k+1)! \times p_{k+1}! \times p_{k+2}!} = \frac{1}{14}$$

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

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{(k+1) \times [p_{k+1} \times p_{k+2} - 2 \times p_{k+1} \times p_{k+3} + p_{k+2} \times p_{k+3} + 5 \times (2 \times p_{k+2} - p_{k+1} - p_{k+3})]}{(p_{k+1} + 5) \times (p_{k+2} + 5) \times (p_{k+3} + 5)} = \frac{3}{20}$$

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

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$$\sum_{k=1}^{k=\infty} \frac{p_k^7 \times \left( p_{k+1}^{\frac{k+1}{p_{k+1}}} - e \right) - p_{k+1}^7 \times \left( p_k^{\frac{k}{p_k}} - e \right)}{p_k^7 \times p_{k+1}^7} = \frac{e - \sqrt{2}}{128} \quad k \in N$$

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

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{8 \times [(k+3) \times p_{k+1} - p_k] - (k+3)! \times (p_{k+1} - p_k)}{p_k \times p_{k+1} \times (k+3)!} = \frac{1}{6}$$

$p_k$  ( $k$ -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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