*In memory of Justynka, my wife*

# FORMULAS

'The laws of nature are but the mathematical thoughts of God.'
Euclid

FORMULA No.
**W04**

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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D041

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{[(k+2) \times (p_k! - 1) \times p_{k+1}! - 2 \times (p_{k+1}! - p_k!)] \times 2^k}{(k+4)! \times p_k! \times p_{k+1}!} = \frac{1}{24}$$

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

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{(k+2)^2 \times ({p_k}^2+1) \times {p_{k+1}}^2 - k^2 \times {p_k}^2}{k^2 \times (k+1)^2 \times (k+2)^2 \times {p_k}^2 \times {p_{k+1}}^2} = \frac{16 \times \pi^2 - 141}{48}$$

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

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{(p_k{}^2 + 1) \times (p_{k+1}{}^2 - p_k{}^2) \times p_{k+1}{}^2 \times p_{k+2}{}^2 - (p_{k+2}{}^2 - p_{k+1}{}^2) \times p_k{}^4}{p_k{}^4 \times p_{k+1}{}^4 \times p_{k+2}{}^2} = \frac{41}{144}$$

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

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$$k \in N$$

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

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

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{(p_k + 1) \times p_{k+1} \times (p_{k+2} - p_{k+1}) \times (p_{k+3} + 1) - p_k \times (p_{k+1} + 1) \times (p_{k+3} - p_{k+2})}{p_k \times p_{k+1} \times (p_{k+1} + 1) \times (p_{k+2} + 1) \times (p_{k+3} + 1)} = \frac{7}{24}$$

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

## NEW MATHEMATICAL FORMULA DAILY

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**D046**

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{(2 \times p_{k+1} - 2 \times p_k + 3 \times p_k \times p_{k+1}) \times k + 6 \times p_{k+1} - 2 \times p_k + 9 \times p_k \times p_{k+1}}{(k+1) \times (k+2) \times (k+3) \times p_k \times p_{k+1}} = 1\frac{2}{3}$$

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

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{2 \times (k+1) \times {p_{k+2}}^2 - {p_{k+1}}^2}{{p_{k+1}}^2 \times {p_{k+2}}^2 \times (k+1)! \times 2^k} = \frac{1}{9}$$

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

NEW MATHEMATICAL FORMULA DAILY

# We invite you every week and every day to our website www.and-just-math.com

Thanks for:
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