



FORMULAS

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

FORMULA No.

W01

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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FORMULA No.

D011

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$k, n \in \mathbb{N}$

$$\sum_{k=1}^n \frac{1}{16 \times k^2 + 40 \times k + 21} = \frac{n}{28 \times n + 49}$$

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$$\begin{aligned} & \frac{4}{k^2 + 6 \times k + 5} && k \in \mathbb{N} \\ &= \frac{1}{k^2 + 3 \times k + 2} + \frac{1}{k^2 + 5 \times k + 6} \\ &+ \frac{1}{k^2 + 7 \times k + 12} + \frac{1}{k^2 + 9 \times k + 20} \end{aligned}$$

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$k, n \in \mathbb{N}$

$$\sum_{k=1}^n \frac{1}{\sqrt{k+1} + \sqrt{k}} = \sqrt{n+1} - 1$$

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$k, V \in \mathbb{N}$

$$\sum_7^{7 \times 2^V - 1} \frac{2 \times k + 1}{k^2 \times (k + 1)^2} = \frac{2^{2 \times V} - 1}{49 \times 2^{2 \times V}}$$

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$$\sum_{k=1}^n \frac{2 \times k + 10}{16 \times k^4 + 320 \times k^3 + 2392 \times k^2 + 7920 \times k + 9801} \quad k, n \in \mathbb{N}$$
$$= \frac{n^2 + 11 \times n}{484 \times n^2 + 5324 \times n + 14641}$$

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$$\sum_1^n \frac{tg\left(\frac{k+1}{k+2} \times \frac{\pi}{2}\right) - tg\left(\frac{k}{k+1} \times \frac{\pi}{2}\right)}{4 \times tg\left(\frac{k+1}{k+2} \times \frac{\pi}{2}\right) \times tg\left(\frac{k}{k+1} \times \frac{\pi}{2}\right) + 2 \times tg\left(\frac{k+1}{k+2} \times \frac{\pi}{2}\right) + 2 \times tg\left(\frac{k}{k+1} \times \frac{\pi}{2}\right) + 1}$$
$$= \frac{tg\left(\frac{n+1}{n+2} \times \frac{\pi}{2}\right) - 1}{6 \times tg\left(\frac{n+1}{n+2} \times \frac{\pi}{2}\right) + 3}$$

$k, n \in \mathbb{N}$

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$$\sum_{k=1}^n \frac{2^k + 1}{2^{2 \times k + 1} + 3 \times k \times 2^k + 2^k + k^2 + k} \quad k, n \in \mathbb{N}$$
$$= \frac{2^{n+1} + n - 2}{3 \times 2^{n+1} + 3 \times n + 3}$$

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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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