



# FORMULAS

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

FORMULA No.

**W04**

[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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$$\sum_{k=1}^{k=\infty} \sin\left(\frac{2^k \times \pi}{3^k}\right) \times \sin\left(\frac{2^k \times \pi}{5 \times 3^k}\right) = \frac{5 + \sqrt{5}}{8} \quad k \in \mathbb{N}$$

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$k \in N$

$$\prod_{k=1}^{k=\infty} \left( 1 - 4 \times \sin \left( \frac{\pi}{24 \times 5^k} \right) \times \sin \left( \frac{\pi}{8 \times 5^k} \right) \right)$$
$$= \frac{(3 \times \sqrt{2} + 2 \times \sqrt{3} + \sqrt{6} + 4) \times \sqrt{8 + 2 \times \sqrt{6} - 4 \times \sqrt{2} - 4 \times \sqrt{3}}}{8}$$

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$k \in \mathbb{N}$

$$\sum_{k=1}^{k=\infty} \frac{2 \times k + 1}{(9 - \sqrt{77}) \times k^4 + 2 \times (9 - \sqrt{77}) \times k^3 + (\sqrt{77} - 5) \times k^2 + 2 \times (\sqrt{77} - 7) \times k + 7 + \sqrt{77}} = \frac{1}{2}$$

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$$\sum_{k=1}^{k=\infty} \frac{2 \times k + 1}{k^4 + 2 \times k^3 + 19 \times k^2 + 18 \times k + 90} = \frac{1}{10} \quad k \in \mathbb{N}$$

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$$\sum_{k=1}^{k=\infty} (-1)^k \times \left(\frac{5 \times \pi}{2}\right)^{2 \times k} \times \frac{(2 \times k + 1) \times 2^{2 \times k} - 5 \times \pi}{(2 \times k + 1)!} \quad k \in \mathbb{N}$$
$$= 5 \times \pi - 4$$

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$k \in N$

$$\sum_{k=1}^{k=\infty} \frac{5^{k-1} \times [(5 \times k + 8)^{k+1} + 25 \times (5 \times k - 2)^{k-1} - 10 \times (5 \times k + 3)^k]}{[(5 \times k + 8)^{k+1} - 5 \times (5 \times k + 3)^k] \times [(5 \times k + 3)^k - 5 \times (5 \times k - 2)^{k-1}]} = \frac{1}{3}$$

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$$\sum_{k=1}^{k=\infty} \frac{k^2 + 15 \times k + 57}{(k + 7) \times (k + 8) \times (k + 8)!} = \frac{1}{322560} \quad k \in \mathbb{N}$$

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week and every day  
to our website  
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