



# FORMULAS

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

FORMULA No.

**W42**

[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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FORMULA No.

**D421**

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$k \in N$

$$\sum_{k=1}^{k=\infty} (-1)^{k-1} \times \cos\left(\frac{6 \times \pi}{5^{k+1}}\right) \times \cos\left(\frac{4 \times \pi}{5^{k+1}}\right) = \frac{\sqrt{5} - 1}{8} \pm \frac{1}{2}$$

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

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$$\sum_{k=1}^{k=\infty} \sin\left(\frac{\pi}{5 \times 2^k}\right) \times \cos\left(\frac{3 \times \pi}{5 \times 2^k}\right) = \frac{\sqrt{10 + 2 \times \sqrt{5}}}{8} \quad k \in \mathbb{N}$$

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$$\sum_{k=1}^{k=\infty} \frac{1}{2^k} \times tg \left( \frac{\pi}{5 \times 2^{k-2}} \right) = \frac{25 + 4 \times \sqrt{25 + 10 \times \sqrt{5}} \times \pi}{20 \times \pi} \quad k \in N$$

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

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$k \in N$

$$\sum_{k=1}^{k=\infty} (-1)^{k-1} \times \frac{\operatorname{ctg}\left(\frac{\pi}{5 \times 2^{k-2}}\right) + \operatorname{ctg}\left(\frac{\pi}{5 \times 2^{k-1}}\right)}{\operatorname{ctg}\left(\frac{\pi}{5 \times 2^{k-2}}\right) \times \operatorname{ctg}\left(\frac{\pi}{5 \times 2^{k-1}}\right)} = \sqrt{5 + 2 \times \sqrt{5}}$$

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$$\sum_{k=1}^{k=\infty} (-1)^{k-1} \times \frac{\sin\left(\frac{\pi}{4 \times 3^k}\right) + \sin\left(\frac{\pi}{4 \times 3^{k+1}}\right)}{\operatorname{tg}\left(\frac{\pi}{2 \times 3^{k+1}}\right)} = \frac{\sqrt{6} + \sqrt{2}}{4} \pm 1 \quad k \in \mathbb{N}$$

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week and every day  
to our website  
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Thanks for:  
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