



# FORMULAS

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

FORMULA No.

**W30**

[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**



# FORMULAS

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

FORMULA No.

**D301**

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

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# FORMULAS

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

FORMULA No.

**D302**

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$$\sum_{k=1}^{k=\infty} (-1)^{k-1} \times \cos\left(\frac{5 \times \pi}{2^{k+3}}\right) \times \cos\left(\frac{5 \times \pi}{3 \times 2^{k+3}}\right) \quad k \in \mathbb{N}$$
$$= \frac{\sqrt{6} - \sqrt{2}}{8} \pm \frac{1}{2}$$

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# FORMULAS

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FORMULA No.

**D303**

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

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# FORMULAS

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FORMULA No.

**D304**

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$$\sum_{k=1}^{k=\infty} \sin\left(\frac{5 \times \pi}{2^{2 \times k + 3}}\right) \times \cos\left(\frac{25 \times \pi}{3 \times 2^{2 \times k + 3}}\right) = \frac{\sqrt{6} + \sqrt{2}}{8} \quad k \in \mathbb{N}$$

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# FORMULAS

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FORMULA No.

**D305**

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$$\sum_{k=1}^{k=\infty} \sin\left(\frac{\pi}{4 \times 3^k}\right) \times \sin\left(\frac{-\pi}{8 \times 3^k}\right) = \frac{\sqrt{2 + \sqrt{2}} - 2}{4} \quad k \in \mathbb{N}$$

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# FORMULAS

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FORMULA No.

**D306**

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

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$$\sum_{k=1}^{k=\infty} \operatorname{tg}\left(\frac{\pi}{2^{k+3}}\right) \times \left[ \mathbf{1} + \operatorname{tg}\left(\frac{\pi}{2^{k+2}}\right) \times \operatorname{tg}\left(\frac{\pi}{2^{k+3}}\right) \right]^{k \in \mathbb{N}}$$
$$= \sqrt{2} - 1$$

**NEW MATHEMATICAL FORMULA DAILY**





We invite you every  
week and every day  
to our website  
[www.and-just-math.com](http://www.and-just-math.com)

Thanks for:  
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