

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

FORMULA No.

W40

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



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

FORMULA No.

D401

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$$\sum_{k=1}^{k=\infty} tg\left(\frac{3\times\pi}{5\times2^{k+1}}\right)\times\left[1+tg\left(\frac{3\times\pi}{5\times2^{k}}\right)\times tg\left(\frac{3\times\pi}{5\times2^{k+1}}\right)\right]$$

$$=\frac{\sqrt{25+10\times\sqrt{5}}}{5}$$



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Euclid

FORMULA No.

D402

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$$\sum_{k=1}^{k=\infty} (-1)^{k-1} \times \frac{\sin\left(\frac{\pi}{2^{k+1}}\right) + \sin\left(\frac{\pi}{2^{k+2}}\right)}{tg\left(\frac{3\times\pi}{2^{k+3}}\right)} = \frac{\sqrt{2}}{2} \pm 1$$



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Euclid

FORMULA No.

D403

 $k \in N$

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$$\sum_{k=0}^{k=\infty} arctg \frac{2^{k-1} \times \sqrt{25 + 10 \times \sqrt{5}}}{5 + 2 \times \sqrt{5} + 5 \times 2^{2 \times k - 1}} = \frac{3 \times \pi}{10}$$



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$$k \in N$$

$$\sum_{k=1}^{k=\infty} (-1)^{k-1} \times \frac{\sin\left(\frac{\pi}{12\times5^{k-2}}\right) + \sin\left(\frac{\pi}{12\times5^{k-1}}\right)}{tg\left(\frac{\pi}{4\times5^{k-1}}\right)} = \frac{\sqrt{6}-\sqrt{2}}{4} \pm 1$$



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$$k \in N$$

$$\sum_{k=\infty}^{k=\infty} \frac{1}{2^k} \times tg\left(\frac{\pi}{3 \times 2^k}\right) = \frac{9 - \sqrt{3} \times \pi}{3 \times \pi}$$



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$$k \in N$$

$$\sum_{k=1}^{k=\infty} tg\left(\frac{8\times\pi}{5^{k+1}}\right) \times \left[1 + tg\left(\frac{2\times\pi}{5^k}\right) \times tg\left(\frac{2\times\pi}{5^{k+1}}\right)\right]$$

$$= \sqrt{5 + 2\times\sqrt{5}}$$



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$$k \in N$$

$$\sum_{k=1}^{k=\infty} arcsin\left(\frac{\left(\sqrt{2-\sqrt{2}}\right) \times \left(\sqrt{2^{2\times k+2}-2+\sqrt{2}}-\sqrt{2^{2\times k}-2+\sqrt{2}}\right)}{2^{2\times k+1}}\right) = \frac{\pi}{8}$$

