FORMULAS

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

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

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} (-1)^{k-1} \times \frac{\sin\left(\frac{3 \times \pi}{5 \times 2^{k+1}}\right)}{\cos\left(\frac{\pi}{5 \times 2^{k}}\right) \times \cos\left(\frac{\pi}{5 \times 2^{k+1}}\right)} = \frac{\sqrt{25 - 10 \times \sqrt{5}}}{5}$$

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} arcsin\left(\frac{(\sqrt{5}+1) \times \left(\sqrt{2^{2\times k+4}-6-2\times\sqrt{5}}-\sqrt{2^{2\times k+2}-6-2\times\sqrt{5}}\right)}{2^{2\times k+3}}\right)$$

$$= \frac{3 \times \pi}{10}$$

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$$k \in N$$

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

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$$\sum_{k=1}^{k=\infty} arctg \, \frac{2^{2\times k-2} \times 3 \times \sqrt{3}}{1 + 3 \times 2^{4\times k-2}} = \frac{\pi}{6} \qquad k \in N$$

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} sin\left(\frac{3 \times \pi}{5 \times 2^{k+2}}\right) \times sin\left(\frac{-\pi}{5 \times 2^{k+2}}\right) = \frac{\sqrt{10 + 2 \times \sqrt{5}} - 4}{8}$$

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} (-1)^{k-1} \times \frac{ctg\left(\frac{\pi}{5 \times 2^k}\right) + ctg\left(\frac{\pi}{5 \times 2^{k+1}}\right)}{ctg\left(\frac{\pi}{5 \times 2^k}\right) \times ctg\left(\frac{\pi}{5 \times 2^{k+1}}\right)} = \frac{\sqrt{25 - 10 \times \sqrt{5}}}{5}$$

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} arcsin\left(\frac{\sqrt{10 - 2 \times \sqrt{5}} \times \left(\sqrt{2^{2 \times k + 4} - 10 + 2 \times \sqrt{5}} - \sqrt{2^{2 \times k + 2} - 10 + 2 \times \sqrt{5}}\right)}{2^{2 \times k + 3}}\right)$$
$$= \frac{\pi}{5}$$

NEW MATHEMATICAL FORMULA DAILY

We invite you every week and every day to our website www.and-just-math.com