

FORMULAS

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

Euclid

FORMULA No.

W10

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



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FORMULA No.

D101

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$$\sum_{k=1}^{k=\infty} \frac{(-1)^k \times (k+1)}{(2 \times k + 1) \times (2 \times k + 3)} = -\frac{1}{12}$$



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FORMULA No.

D102

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$$\sum_{k=1}^{k=\infty} \frac{1}{(5 \times k + 12) \times (5 \times k + 17)} = \frac{1}{85}$$



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$$k \in N$$

$$\sum_{k=0}^{k=\infty} sin\left(\frac{3^{k-1}\times\pi}{7^k}\right)\times sin\left(\frac{2\times3^{k-1}\times\pi}{5\times7^k}\right) = \frac{3-\sqrt{5}}{8}$$



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D104

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$$k \in N$$

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



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D105

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$$\sum_{k=1}^{k=\infty} \frac{(-1)^k \times (3 \times k + 1)}{4 \times (3 \times k + 1)^2 - 9} = -\frac{1}{20}$$



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D106

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$$k \in N$$

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



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D107

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{60 \times k^2 - 58 \times k - 1}{(5 \times k - 4) \times (5 \times k + 1) \times (55 \times k - 54) \times (55 \times k + 1)} = \frac{1}{275}$$

