FORMULA No.

**W11** 

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

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We are not mathematicians, but we love mathematics and create formulas ourselves.

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FORMULA No.

D11<u>1</u>

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$$\begin{split} & \underset{k=1}{\overset{k=\infty}{\prod}} \left( 5 - tg^2 \left( \frac{5 \times \pi}{2^{2 \times k+3}} \right) - 2 \times \frac{tg \left( \frac{5 \times \pi}{2^{2 \times k+2}} \right)}{tg \left( \frac{5 \times \pi}{2^{2 \times k+3}} \right)} \right) = -\frac{5 \times \left( \sqrt{2} - 1 \right) \times \pi}{8} \end{split}$$



FORMULA No.

D112

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



FORMULA No.

D113

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



FORMULA No.

D114

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$$\sum_{k=1}^{k=\infty} \frac{1}{k^2 \times (k+1)} = \frac{\pi^2}{6} - 1$$



FORMULA No.

D115

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



FORMULA No.

D116

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$$\sum_{k=1}^{k=\infty} \frac{(k-1) \times (k+3)}{k^2 \times (k+1) \times (k+2)^2} = \frac{1}{16}$$



FORMULA No.

D117

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$$\prod_{k=1}^{k=\infty} \frac{\cos\left(\frac{\pi}{2^{k+1}}\right)}{\cos^2\left(\frac{\pi}{2^{k+2}}\right)} = \frac{\pi}{4}$$

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

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