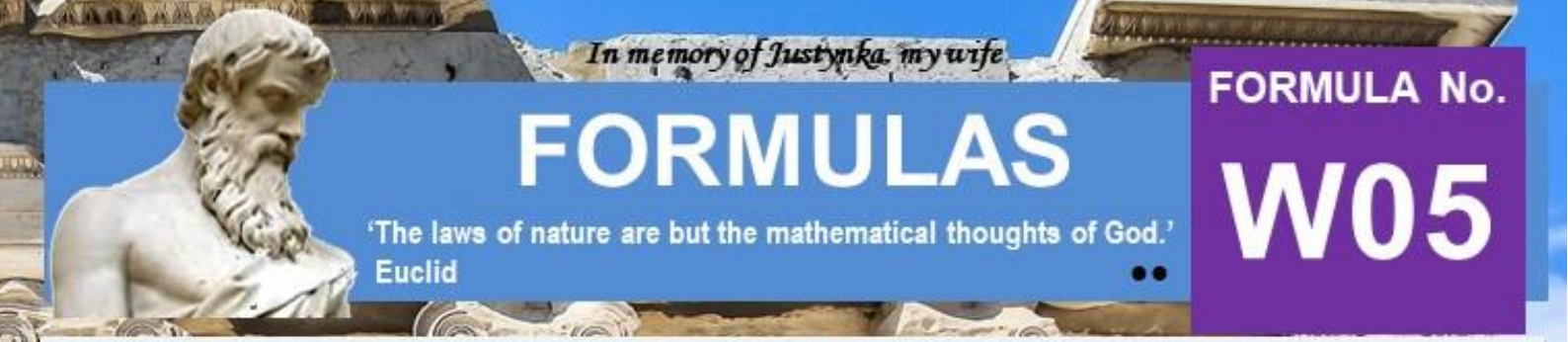

In memory of Justynka, my wife

FORMULAS

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

FORMULA No.

W05

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1 WEEK = 7 DAYS = 7 FORMULAS

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$$k \in N$$

$$\prod_{k=1}^{k=\infty} \left(2 \times cos\left(\frac{\pi}{4 \times 3^{k+1}}\right) - 1\right)$$

$$= \frac{\left(3 \times \sqrt{2} + 2 \times \sqrt{3} + \sqrt{6} + 4\right) \times \sqrt{8 + 2 \times \sqrt{6} - 4 \times \sqrt{2} - 4 \times \sqrt{3}}}{8}$$

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$$\sum_{k=1}^{k=\infty} sin\left(\frac{\pi}{7^k}\right) \times sin\left(\frac{3 \times \pi}{4 \times 7^k}\right) = \frac{2-\sqrt{2}}{4} \qquad k \in N$$

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{2 \times k + 1}{(7 - 3 \times \sqrt{5}) \times k^4 + 2 \times (7 - 3 \times \sqrt{5}) \times k^3 + 3 \times (\sqrt{5} - 1) \times k^2 + 2 \times (3 \times \sqrt{5} - 5) \times k + 5 + 3 \times \sqrt{5}} = \frac{1}{2}$$

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{k^2 - k - 1}{(11 \times k + 2) \times (11 \times k + 13) \times (13 \times k - 2) \times (13 \times k + 11)} = 0$$

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$$\sum_{k=1}^{k=\infty} \frac{k^2 + 13 \times k + 43}{(k+6) \times (k+7) \times (k+7)!} = \frac{1}{35280} \qquad k \in N$$

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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{3^{k-1} \times \left[(3 \times k + 8)^{k+1} + 9 \times (3 \times k + 2)^{k-1} - 6 \times (3 \times k + 5)^{k}\right]}{\left[(3 \times k + 8)^{k+1} - 3 \times (3 \times k + 5)^{k}\right] \times \left[(3 \times k + 5)^{k} - 3 \times (3 \times k + 2)^{k-1}\right]} = \frac{1}{5}$$

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

$$=\frac{\pi\times 5\times\left(2+\sqrt{6}-\sqrt{2}-\sqrt{3}\right)}{24}$$

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

Thanks for:
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