

In memory of Justynke, my wife

FORMULAS

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

W25

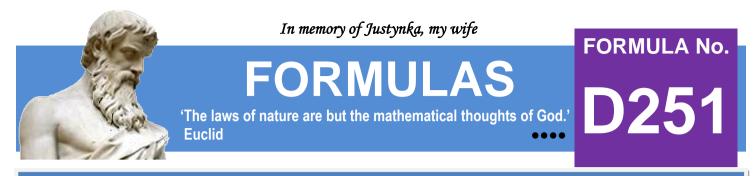
FORMULA No.

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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



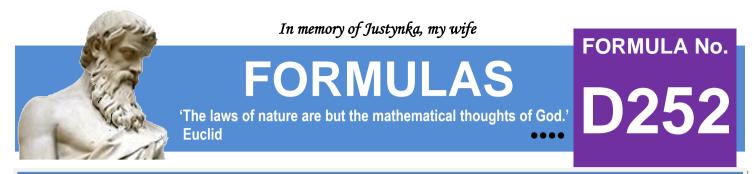


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 $k \in N$

$$\sum_{k=1}^{k=\infty} \frac{9 \times k^4 + 51 \times k^3 + 136 \times k^2 + 216 \times k + 144}{(k+2)^2 \times (k+3)^2 \times (3 \times k + 1) \times (3 \times k + 4)} = \frac{2 \times \pi^2 - 15}{12}$$

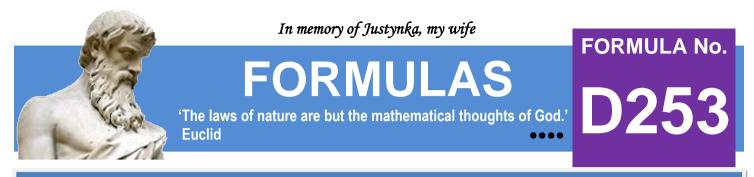


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$$\sum_{k=1}^{k=\infty} \frac{k^6 + 22 \times k^5 + 181 \times k^4 + 804 \times k^3 + 2196 \times k^2 + 3024 \times k + 1296}{k^2 \times (k+1)^2 \times (k+5)^2 \times (k+6)^2} = \frac{\pi^2}{6}$$

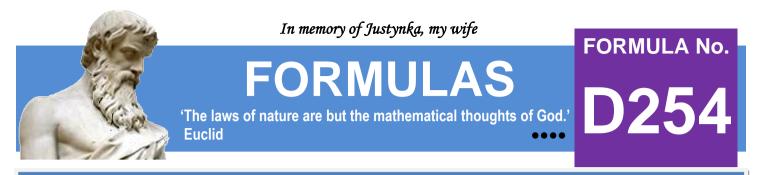


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$$\sum_{k=1}^{k=\infty} \frac{16 \times k^4 + 104 \times k^3 + 385 \times k^2 + 888 \times k + 784}{(k+2)^2 \times (k+3)^2 \times (k+4)^2 \times (4 \times k + 3) \times (4 \times k + 7)} = \frac{6 \times \pi^2 - 59}{18}$$

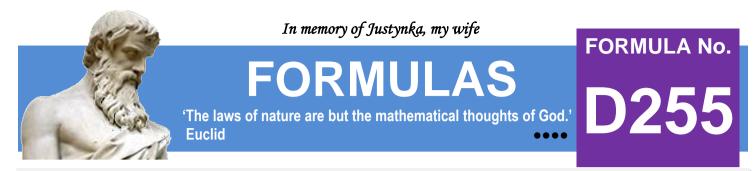


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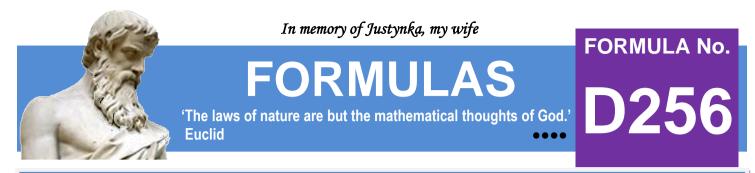
$$\sum_{k=1}^{k=\infty} \frac{49 \times k^5 + 259 \times k^4 + 421 \times k^3 + 236 \times k^2 + 160 \times k + 64}{(7 \times k - 6) \times (7 \times k + 1) \times (k + 2)^3 \times (k + 3)^3 \times (k + 4)^3} = \frac{533 - 54 \times \pi^2}{54}$$



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$$\prod_{k=1}^{k=\infty} \frac{64 \times k^2 \times (4 \times k^2 - 1)}{(16 \times k^2 - 1)^2} = \frac{\pi}{4}$$

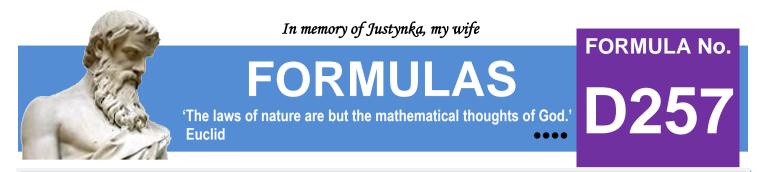


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$$\sum_{k=1}^{k=\infty} \frac{16 \times k^4 + 128 \times k^3 + 419 \times k^2 + 427 \times k + 75}{(k+4) \times (k+5) \times (16 \times k^2 - 9) \times (16 \times k^2 - 1)} = \frac{\pi}{8}$$



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$$\sum_{k=1}^{k=\infty} \frac{\left[(\pi^2 - 6) \times k^2 + 6 \times (\pi^2 - 4) \times k + 9 \times \pi^2 - 24 \right] \times 6^{k-1}}{(k+2)^2 \times (k+3)^2 \times \pi^{2 \times k}} = \frac{1}{6}$$

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

> Thanks for: Photo nonbirinonko z Pixabay Photo Gordon Johnson z Pixabay Photo lange-adrian z Pixabay