

FORMULAS

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

FORMULA No.

W04

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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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{4 \times k^4 + 32 \times k^3 + 145 \times k^2 + 384 \times k + 400}{(k+2)^2 \times (k+3)^2 \times (k+4)^2 \times (2 \times k + 3) \times (2 \times k + 5)} = \frac{6 \times \pi^2 - 59}{18}$$



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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{16 \times k^4 + 32 \times k^3 + 3 \times k^2 - 167 \times k - 308}{(k+1) \times (k+2) \times (16 \times k^2 - 121) \times (16 \times k^2 - 49)} = \frac{\pi}{72}$$



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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{4 \times k^4 + 44 \times k^3 + 235 \times k^2 + 676 \times k + 784}{(k+2) \times (k+3)^2 \times (k+4)^2 \times (2 \times k + 5) \times (2 \times k + 7)} = \frac{61 - 6 \times \pi^2}{36}$$



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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{25 \times k^5 + 155 \times k^4 + 429 \times k^3 + 908 \times k^2 + 1312 \times k + 576}{(5 \times k - 2) \times (5 \times k + 3) \times (k + 2)^3 \times (k + 3)^3 \times (k + 4)^3} = \frac{533 - 54 \times \pi^2}{54}$$



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$$k \in N$$

$$\sum_{k=1}^{k=\infty} \frac{16 \times k^4 + 16 \times k^3 + 47 \times k^2 + 47 \times k + 15}{k \times (k+1) \times (16 \times k^2 - 1) \times [16 \times (k+1)^2 - 1]} = \frac{4 - \pi}{8}$$



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$$\sum_{k=1}^{k=\infty} \frac{1}{(81-16\times k^2)} = \frac{9\times \pi - 4}{648}$$



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$$k \in N$$

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

