

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

FORMULA No.

**W15** 

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.

**D151** 

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$$k, n \in N$$

$$\sum_{k=1}^{k=n} \frac{k \times (k+3)!}{2^{2 \times k+3}} = \frac{(n+4)!}{2^{2 \times n+3}} - 3$$



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FORMULA No.

**D152** 

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



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FORMULA No.

**D153** 

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$$k, n \in N$$

$$\sum_{k=1}^{k=n} \frac{(k-3) \times (k+1)!}{5^k} = \frac{(n+2)!}{5^n} - 2$$



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FORMULA No.

**D154** 

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$$\sum_{k=1}^{k=n} 2^{k-1} \times (2 \times k - 1) \times (k - 1)!$$

$$= 2^{n} \times n! - 1$$



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**D155** 

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$$\sum_{k=1}^{k=n} 2^{3\times k-3} \times (8\times k-1) \times (k-1)!$$

$$= 2^{3\times n} \times n! - 1$$



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FORMULA No.

**D156** 

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 $k, n \in N$ 

$$\sum_{k=1}^{k=n} \frac{k}{(k+1)!} = 1 - \frac{1}{(n+1)!}$$



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FORMULA No.

**D157** 

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$$k, n \in N$$

$$\sum_{k=1}^{k=n} \frac{k \times (k+7)!}{2^{3\times k}} = \frac{(n+8)!}{2^{3\times n}} - 8!$$

