

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

FORMULA No.

W14

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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

# 1 WEEK = 7 DAYS 7 FORMULAS



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

FORMULA No.

**D141** 

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 $k, n \in N$ 

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



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

FORMULA No.

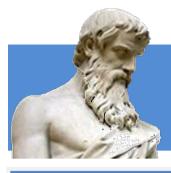
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$$\sum_{k=1}^{k=n} 2^{k-2} \times \frac{(k+1)^3 - 2 \times (k+2)}{k \times (k+1) \times (k+2) \times (k+3)}$$

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



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**D143** 

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



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FORMULA No.

**D144** 

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 $k, n \in N$ 

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



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

FORMULA No.

D145

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 $k, n \in N$ 

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



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FORMULA No.

**D146** 

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

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



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FORMULA No.

**D147** 

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 $k, n \in N$ 

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

