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TLE

Technologique Mathématiques

log : Définition & Propriétés



CORRIGÉ DE L'EXERCICE

CORRECTION

1. Calculons l'expression A:

$$\begin{aligned} A &= \log(1024) \\ &= \log(2^{10}), \text{ car: } 2^{10} = 1024 \\ &= 10 \log(2). \end{aligned}$$

Ainsi: $A = 10 \log(2)$.

2. Calculons l'expression B:

$$\begin{aligned} B &= \log(72) \\ &= \log(9 \times 8) \\ &= \log(3^2 \times 2^3) \\ &= \log(3^2) + \log(2^3) \\ &= 2 \log(3) + 3 \log(2). \end{aligned}$$

Ainsi: $B = 2 \log(3) + 3 \log(2)$.

3. Calculons l'expression C:

$$\begin{aligned}C &= \log(25) - \log(15) \\ &= \log(5^2) - \log(3 \times 5) \\ &= 2 \log(5) - \log(3) - \log(5) \\ &= \log(5) - \log(3).\end{aligned}$$

Ainsi: $C = \log(5) - \log(3)$.

4. Calculons l'expression D:

$$\begin{aligned}D &= \log(21) + 2 \log(7) \\ &= \log(3 \times 7) + 2 \log(7) \\ &= \log(3) + \log(7) + 2 \log(7) \\ &= \log(3) + 3 \log(7).\end{aligned}$$

Ainsi: $D = \log(3) + 3 \log(7)$.