

2) Notation e ; notation e^x .

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9 Simplifier l'écriture de chacun des nombres suivants, où x désigne un nombre réel.

$$A = (e^x)^5 \times e^{-x}$$

$$B = \frac{e^{2x-5}}{e^{2x-7}}$$

$$C = \frac{e^{3x}}{(e^x)^6 \times e}$$

$$D = \frac{e^x e^{2x-1}}{2e^{-x-2}}$$

$$A(x) = (e^x)^5 \times e^{-x}$$

$$A(x) = e^{5x} \times e^{-x} \quad (4)$$

$$A(x) = e^{5x+(-x)} \quad (1)$$

$$\underline{A(x) = e^{4x}}$$

$$B(x) = \frac{e^{2x-5}}{e^{2x-7}}$$

$$B(x) = e^{[(2x-5) - (2x-7)]} \quad (3)$$

$$B(x) = e^{(2x-5-2x+7)}$$

$$\underline{B(x) = e^2}$$

$$C(x) = \frac{e^{3x}}{(e^x)^6 \times e}$$

$$C(x) = \frac{e^{3x}}{e^{6x} \times e^1} \quad (4)$$

$$C(x) = \frac{e^{3x}}{e^{6x+1}} \quad (1)$$

$$C(x) = e^{3x - (6x+1)} \quad (3)$$

$$C(x) = e^{3x-6x-1}$$

$$\underline{C(x) = e^{-3x-1}}$$

Pour tous réels a et b

$$(1) e^{a+b} = e^a \times e^b$$

$$(2) e^{-a} = \frac{1}{e^a}$$

$$(3) e^{a-b} = \frac{e^a}{e^b}$$

$$(4) (e^a)^m = e^{am}, m \in \mathbb{Z}$$

$$D(x) = \frac{e^x e^{2x-1}}{2e^{-x-2}}$$

$$D(x) = \frac{1}{2} \times \frac{e^1 \times e^{2x-1}}{e^{-x-2}}$$

$$D(x) = \frac{1}{2} \times \frac{e^{1+2x-1}}{e^{-x-2}} \quad (1)$$

$$D(x) = \frac{1}{2} \times \frac{e^{2x}}{e^{-x-2}}$$

$$D(x) = \frac{1}{2} \times e^{2x - (-x-2)} \quad (3)$$

$$D(x) = \frac{1}{2} \times e^{2x+x+2}$$

$$\underline{D(x) = \frac{1}{2} e^{3x+2}}$$