

LA FONCTION EXPONENTIELLE E01C

EXERCICE N°3 Savoir développer

Développer les expressions suivantes.

$$1) (e^2 - e)^2$$

$$\begin{aligned} &= (e^2)^2 - 2 \times e^2 \times e + e^2 \\ &= \boxed{e^4 - 2e^3 + e^2} \end{aligned}$$

$$3) e^2(e^{-2} + e)$$

$$\begin{aligned} &= e^{2+(-2)} + e^{2+1} \\ &= \boxed{1+e^3} \end{aligned}$$

$$e^0 = 1$$

$$5) (e^4 - e^{-4})^2$$

$$\begin{aligned} &= (e^4)^2 - 2 \times e^4 \times e^{-4} + (e^{-4})^2 \\ &= e^8 - 2 + e^{-8} \\ &= \boxed{-2 + e^8 + e^{-8}} \end{aligned}$$

$$2) (e^3 - e)(1 - e^2)$$

$$\begin{aligned} &= e^3 - e^3 \times e^2 - e \times 1 + e \times e^2 \\ &= e^3 - e^5 - e + e^3 \\ &= \boxed{-e^5 - e} \end{aligned}$$

$$4) e(e^{-1} + e^2)$$

$$\begin{aligned} &= e^{1+(-1)} + e^{1+2} \\ &= \boxed{1+e^3} \end{aligned}$$

$$6) (1 - e^3)(1 + e^3)$$

$$\begin{aligned} &= 1^2 - (e^3)^2 \\ &= \boxed{1-e^6} \end{aligned}$$