

$$(i) y' + 2y = f(x)$$

$$\text{Eq Homogène: } y' + 2y = 0$$

$$\text{sols: } \boxed{y_H = A e^{-2x} \text{ ou } A \in \mathbb{R}}$$

Second membre

Sol particulière

$$x^2 + x + 1$$

$$ax^2 + bx + c$$

$$e^x(x+1)$$

$$e^x(ax+b)$$

$$x e^x$$

$$(ax+b)e^x$$

$$e^x$$

$$a e^x$$

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

$$e^{-2x}(ax+b) \cdot x = e^{-2x}(ax^2+bx)$$

$$3 \sin x + 4 \cos x$$

$$a \sin x + b \cos x$$

$$9 \sin x$$

$$a \sin x + b \cos x$$

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

$$(ax^2+bx+c)e^{-2x} \cdot x = e^{-2x}(ax^3+bx^2+cx)$$