$f(x) = (ax+b)e^{-x}$

$A(-2;0) \quad B(0;2)$

Si $A(x_A;y_A) \in \mathcal{C}_f \rightsquigarrow f(x)$

$\Rightarrow \boxed{y_A = f(x_A)}$

$A(-2;0) \Rightarrow f(-2) = 0$

$B(0;2) \Rightarrow f(0) = 2$

$f(x) = (ax+b)e^{-x}$

$f(-2) = (a \times (-2)+b)\, e^{-(-2)}$

$= (-2a+b)\, e^{2}$

$f(0) = (a \times 0 + b)\, e^{0} = b$

$$\begin{cases} f(-2) = (-2a+b)e^{2} = 0 \\ f(0) = b = 2 \end{cases}$$

$$(-2a+2)\cancel{e^{2}} = 0$$

$$-2a = -2$$

$$a = 1 \quad \text{et} \quad b = 2$$

$$f(x) = (x+2)e^{-x}$$

$$C(-1\,;\, f(-1))$$

$$f(-1) = (-1+2)e^{-(-1)} =$$

$$= 1 \times e^{1} = e$$

$$C(-1\,;\, e)$$

x	$-\infty$		-1		$+\infty$
f		↗	e	↘	

$$f(x) = (x+2)\,e^{-x} = uv$$

$$u = x+2 \qquad v = e^{-x}$$

$$u' = 1 \qquad v' = -e^{-x}$$

$$f'(x) = u'v + uv' =$$

$$= e^{-x} + (x+2)\left(-e^{-x}\right) =$$

$$= e^{-x} - (x+2)\,e^{-x} =$$

$$= e^{-x}\left(1-(x+2)\right) =$$

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

$$f'(x) = e^{-x}(-x-1)$$

$e^{-x} > 0$

Toujours

$-x-1 > 0$

$-x > 1$

$x < -1$

x	$-\infty$		-1		$+\infty$
f'		$+$	0	$-$	
f		$\nearrow$	$f(-1)$	$\searrow$	

$$f(-1) = e$$