CORRECTION

EXERCICE n°12 :

1. On a $f(x)=(1-2x^3)e^x$ alors :
$$f'(x)=(-6x^2)e^x+(1-2x^3)e^x=(-2x^3-6x^2+1)e^x.$$

2. On a $f(x)=(x^2+1)(e^x-1)$ alors :
$$f'(x)=2x(e^x-1)+(x^2+1)e^x=(x^2+2x+1)e^x-2x.$$

3. On a $f(x)=(e^x+1)(2e^x-3)$ alors :
$$f'(x)=e^x(2e^x-3)+(e^x+1)\times 2e^x=2e^{2x}-3e^x+2e^{2x}+2e^x=4e^{2x}-e^x$$
$$f'(x)=e^x(4e^x-1).$$

4. On a $f(x)=\dfrac{x+1}{e^x+3}$ alors :
$$f'(x)=\frac{1\times(e^x+3)-(x+1)e^x}{(e^x+3)^2}=\frac{3-xe^x}{(e^x+3)^2}.$$

5. On a $f(x)=(0,01x-1)e^x+3$ alors :
$$f'(x)=0,01e^x+(0,01x-1)e^x=(0,01x-0,99)e^x.$$

6. On a $f(x)=\dfrac{3e^x-1}{2e^x+1}$ alors :
$$f'(x)=\frac{3e^x\times(2e^x+1)-(3e^x-1)2e^x}{(2e^x+1)^2}=\frac{6e^{2x}+3e^x-6e^{2x}+2e^x}{(2e^x+1)^2}=\frac{5e^x}{(2e^x+1)^2}.$$