**Exercice - M0167**

Calculer les primitves ou les intégrales suivantes :

1.
$$f(x) = (x^2 + 4x + 5)e^{-x-1}$$

2.
$$f(x) = x^2\sqrt{x+2}$$

3.
$$f(x) = \frac{3x^2 - 2x + 3}{(x^2-1)^2}$$

4.
$$f(x) = \frac{4x^2+1}{\sqrt{2x^2+1}}$$

5.
$$I = \int_0^{\frac{\pi}{2}} \sin^2 x \cos^5 x \, \mathrm{d}x$$

6.
$$f(x) = \frac{\sin x - x\cos x}{x^2}$$

7.
$$f(x) = \frac{1-x^2}{(1+x^2)^2}$$

8.
$$f(x) = xe^x$$

9.
$$f(x) = \frac{\ln^2 x}{x}$$

10.
$$f(x) = \frac{1}{x\ln x}$$