1) $\left(\frac{1}{8}(2x+3)^4\right)' = \frac{1}{8}\cdot 4(2x+3)^3\cdot(2x+3)'$

$= \frac{1}{2}(2x+3)^3\cdot 2$

$= (2x+3)^3$

Ce qui fait que $\int (2x+3)^3\,dx = \frac{1}{8}(2x+3)^4 + C$

2) $\left(\frac{x}{x^2+4}\right)' = \frac{1\cdot(x^2+4) - x\cdot(2x)}{(x^2+4)^2} = \frac{x^2+4-2x^2}{(x^2+4)^2}$

$= \frac{4-x^2}{(x^2+4)^2}$

Ainsi, $\int \frac{4-x^2}{(x^2+4)^2} = \frac{x}{x^2+4} + C$

3) $$\left(\frac{2x}{\sqrt{x+1}}\right)' = \frac{(2x)'\cdot\sqrt{x+1} - 2x\cdot\frac{1}{2\sqrt{x+1}}\cdot(x+1)'}{\left(\sqrt{x+1}\right)^2}$$

$$= \frac{2\cdot\sqrt{x+1} - \frac{x}{\sqrt{x+1}}}{x+1} = \frac{1}{x+1}\ \frac{2(x+1)-x}{\sqrt{x+1}}$$

$$= \frac{x+2}{(x+1)\sqrt{x+1}} = \frac{x+2}{\sqrt{(x+1)^2}\sqrt{x+1}} = \frac{x+2}{\sqrt{(x+1)^3}}$$