$$\frac{d}{dx}\left(\sqrt{x}\right) = \frac{d}{dx}\left(x^{1/2}\right) = \frac{1}{2} \cdot x^{\frac{1}{2}-1} =$$

$$\bullet \int \frac{\operatorname{sen}\sqrt{x}}{\sqrt{x}}\, dx$$

$$= \frac{1}{2}\, x^{-1/2} = \frac{1}{2}\, \frac{1}{x^{1/2}} = \frac{1}{2}\, \frac{1}{\sqrt{x}}$$

$$\int \frac{\operatorname{sen}\sqrt{x}}{\sqrt{x}}\, dx = 2 \int \frac{1}{2}\, \frac{\operatorname{sen}\sqrt{x}}{\sqrt{x}}\, dx = 2 \int \frac{1}{2\sqrt{x}} \cdot \operatorname{sen}\sqrt{x}\, dx =$$

$$= 2\left(-\cos\sqrt{x}\right) + q \qquad \rightarrow \quad -2\cos\sqrt{x} + q$$

$$\uparrow$$

$$\int f'(x) \cdot \operatorname{sen} f(x)\, dx = -\cos f(x) + q$$