Examples

$$f(x) := 3\,x^2 + 2\,\sin(x)$$

$$\int \sin(x)\,dx \to -\cos(x)$$

$$\int x^2\,dx \to \frac{x^3}{3}$$

$$\int f(x)\,dx \to x^3 - 2\cdot\cos(x)$$

$$\int \sqrt{8+9\,x}\,dx \to \frac{2\cdot(9\cdot x+8)^{\frac{3}{2}}}{27}$$

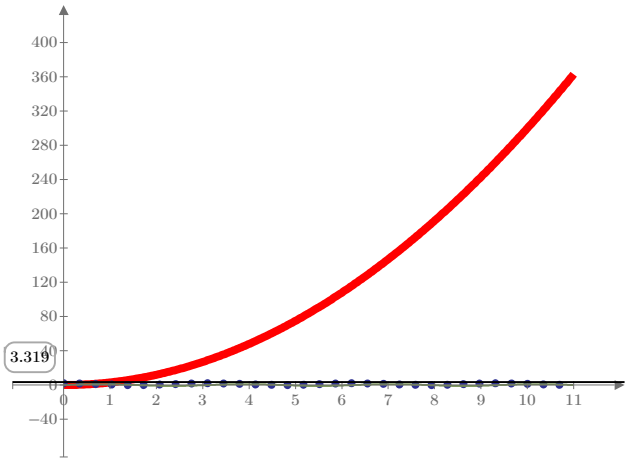
$$\frac{d}{dx}(9\cdot x+8)^{\frac{3}{2}} \to \frac{27\cdot\sqrt{9\cdot x+8}}{2} \qquad \frac{d}{dy}y^{\frac{3}{2}} \to \frac{3\cdot\sqrt{y}}{2}$$

References:

1. **G.Simmons.** Calculus With Analitic Geometry (1996): 5.3.
2. **MIT** lection 03.14.2013.

$$\frac{3 \cdot x^2}{2\cos(x)^2}$$

$$\frac{d}{dx}\sin(x)^2$$



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References:

1. **G.Simmons.** Calculus With Analitic Geometry (1996): 5.3.
2. **MIT** lection 03.14.2013.