

Finding Integrals

$$f(x) = x^n \quad F(x) = \frac{x^{n+1}}{n+1} + C$$

$$f(x) = \frac{1}{x} \quad F(x) = \ln|x| + C$$

$$\text{Ex: } g'(x) = 4\sin x + \frac{2x^5 - \sqrt{x}}{x} = 4\sin x + 2x^4 - x^{-\frac{1}{2}}$$

$$g(x) = -4\cos x + \frac{2x^5}{5} - \frac{x^{\frac{1}{2}}}{\frac{1}{2}} = -4\cos x + \frac{2}{5}x^5 - 2\sqrt{x}$$