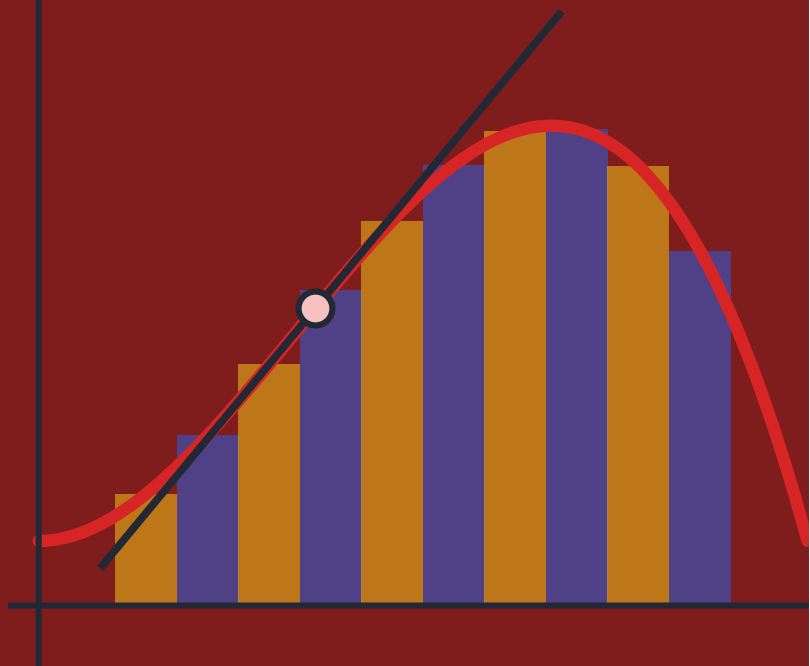


Integrals

**Basic**

$$\int x^n dx = \frac{x^{n+1}}{n+1} + C \quad (n \neq -1), \quad \int \frac{1}{x} dx = \log |x| + C$$

Exp

$$\int e^x dx = e^x + C, \quad \int a^x dx = \frac{a^x}{\log a} + C$$

Trig

$$\int \sin x dx = -\cos x + C, \quad \int \cos x dx = \sin x + C, \\ \int \sec^2 x dx = \tan x + C$$

Trig

$$\int \operatorname{cosec}^2 x dx = -\cot x + C, \quad \int \sec x \tan x dx = \sec x + C, \\ \int \operatorname{cosec} x \cot x dx = -\operatorname{cosec} x + C$$

Trig

$$\int \tan x dx = \log |\sec x| + C, \quad \int \cot x dx = \log |\sin x| + C$$

sec, cosec

$$\int \sec x dx = \log |\sec x + \tan x| + C, \quad \int \operatorname{cosec} x dx \\ = \log |\operatorname{cosec} x - \cot x| + C$$

Inverse trig

$$\int \frac{dx}{\sqrt{1-x^2}} = \sin^{-1} x + C, \quad \int \frac{dx}{1+x^2} = \tan^{-1} x + C$$

Special

$$\int \frac{dx}{x^2-a^2} = \frac{1}{2a} \log \left| \frac{x-a}{x+a} \right| + C, \quad \int \frac{dx}{a^2-x^2} = \frac{1}{2a} \log \left| \frac{a+x}{a-x} \right| + C$$