



Primitivas Imediatas

Na lista de primitivas que se segue, $f: I \rightarrow \mathbb{R}$ é uma função derivável no intervalo I e C denota uma constante real arbitrária.

$$1. \int a \, dx = ax + C$$

$$2. \int f'(x) f^\alpha(x) \, dx = \frac{f^{\alpha+1}(x)}{\alpha+1} + C \quad (\alpha \neq -1)$$

$$3. \int \frac{f'(x)}{f(x)} \, dx = \ln |f(x)| + C$$

$$4. \int a^{f(x)} f'(x) \, dx = \frac{a^{f(x)}}{\ln a} + C \quad (a \in \mathbb{R}^+ \setminus \{1\})$$

$$5. \int f'(x) \cos(f(x)) \, dx = \text{sen}(f(x)) + C$$

$$6. \int f'(x) \text{sen}(f(x)) \, dx = -\cos(f(x)) + C$$

$$7. \int \frac{f'(x)}{\cos^2(f(x))} \, dx = \text{tg}(f(x)) + C$$

$$8. \int \frac{f'(x)}{\text{sen}^2(f(x))} \, dx = -\text{cotg}(f(x)) + C$$

$$9. \int f'(x) \text{tg}(f(x)) \, dx = -\ln |\cos(f(x))| + C$$

$$10. \int f'(x) \text{cotg}(f(x)) \, dx = \ln |\text{sen}(f(x))| + C$$

$$11. \int \frac{f'(x)}{\cos(f(x))} \, dx = \ln \left| \frac{1}{\cos(f(x))} + \text{tg} f \right| + C$$

$$12. \int \frac{f'(x)}{\text{sen}(f(x))} \, dx = \ln \left| \frac{1}{\text{sen}(f(x))} - \text{cotg}(f(x)) \right| + C$$

$$13. \int \frac{f'(x)}{\sqrt{1-f^2(x)}} \, dx = \arcsen(f(x)) + C$$

$$14. \int \frac{-f'(x)}{\sqrt{1-f^2(x)}} \, dx = \arccos(f(x)) + C$$

$$15. \int \frac{f'(x)}{1+f^2(x)} \, dx = \text{arctg}(f(x)) + C$$

$$16. \int \frac{-f'(x)}{1+f^2(x)} \, dx = \text{arccotg}(f(x)) + C$$

$$17. \int f'(x) \text{ch}(f(x)) \, dx = \text{sh}(f(x)) + C$$

$$18. \int f'(x) \text{sh}(f(x)) \, dx = \text{ch}(f(x)) + C$$

$$19. \int \frac{f'(x)}{\text{ch}^2(f(x))} \, dx = \text{th}(f(x)) + C$$

$$20. \int \frac{f'(x)}{\text{sh}^2(f(x))} \, dx = -\text{coth}(f(x)) + C$$

$$21. \int \frac{f'(x)}{\sqrt{f^2(x)+1}} \, dx = \text{argsh}(f(x)) + C$$

$$22. \int \frac{f'(x)}{\sqrt{f^2(x)-1}} \, dx = \text{argch}(f(x)) + C$$

$$23. \int \frac{f'(x)}{1-f^2(x)} \, dx = \text{argth}(f(x)) + C$$

$$24. \int \frac{f'(x)}{1-f^2(x)} \, dx = \text{argcoth}(f(x)) + C$$