Formules de base d'intégration

1. $\int u^n du = \frac{u^{n+1}}{n+1} + C$ où $n \neq -1$

2. $\int \frac{du}{u} = \ln|u| + C$

3. $\int a^u \, du = \frac{a^u}{\ln a} + C$ où $a > 0$ et $a \neq 1$

4. $\int e^u \, du = e^u + C$ (*cas particulier de la formule* #3)

5. $\int \sin u \, du = -\cos u + C$

6. $\int \cos u \, du = \sin u + C$

7. $\int \sec^2 u \, du = \tan u + C$

8. $\int \csc^2 u \, du = -\cot u + C$

9. $\int \tan u \, du = \ln|\sec u| + C = -\ln|\cos u| + C$

10. $\int \cot u \, du = \ln|\sin u| + C$

11. $\int \sec u \cdot \tan u \, du = \sec u + C$

12. $\int \csc u \cdot \cot u \, du = -\csc u + C$

13. $\int \sec u \, du = \ln|\sec u + \tan u| + C$

14. $\int \csc u \, du = \ln|\csc u - \cot u| + C = -\ln|\csc u + \cot u| + C$

15. $\int \frac{du}{\sqrt{a^2-u^2}} = \text{Arc}\sin\left(\frac{u}{a}\right) + C$

16. $\int \frac{du}{a^2+u^2} = \frac{1}{a}\cdot \text{Arc}\tan\left(\frac{u}{a}\right) + C$

17. $\int \frac{du}{u\sqrt{u^2-a^2}} = \frac{1}{a}\cdot \text{Arc}\sec\left(\frac{u}{a}\right) + C$

Identités trigonométriques

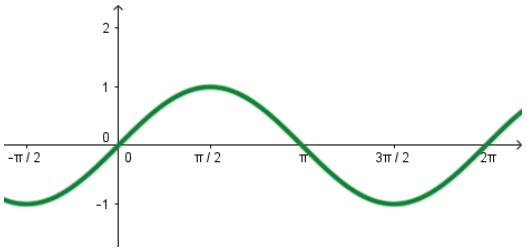
1. $\sin^2(A)+\cos^2(A)=1$
2. $1+\tan^2(A)=\sec^2(A)$
3. $1+\cot^2(A)=\csc^2(A)$
4. $\sin(2A)=2\sin(A)\cos(A)$
5. $\cos(2A)=\cos^2(A)-\sin^2(A)$
6. $\sin^2(A)=\frac{1-\cos(2A)}{2}$
7. $\cos^2(A)=\frac{1+\cos(2A)}{2}$
8. $\sin(A)\cos(B)=\frac{1}{2}\left[\sin(A-B)+\sin(A+B)\right]$
9. $\sin(A)\sin(B)=\frac{1}{2}\left[\cos(A-B)-\cos(A+B)\right]$
10. $\cos(A)\cos(B)=\frac{1}{2}\left[\cos(A-B)+\cos(A+B)\right]$

De plus, on a les relations suivantes :

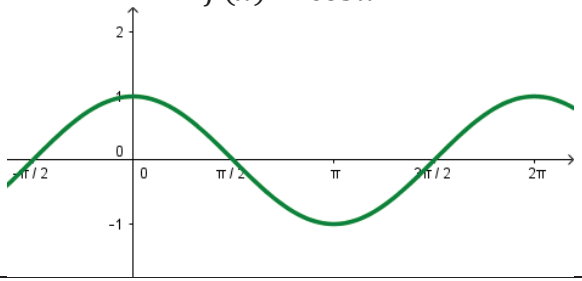
$tan\ A=\frac{\sin A}{\cos A}$ $\quad \cot A=\frac{\cos A}{\sin A}$ $\quad \sec A=\frac{1}{\cos A}$ $\quad \csc A=\frac{1}{\sin A}$

Graphiques des fonctions trigonométriques

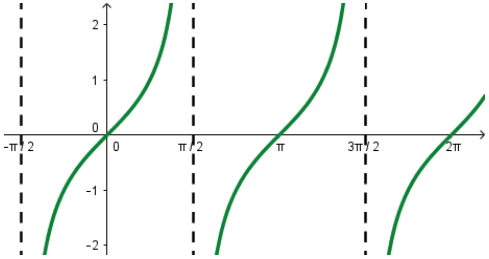
$f(x) = \sin x$



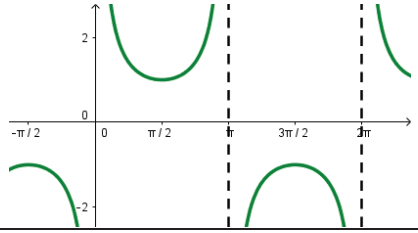
$f(x) = \cos x$



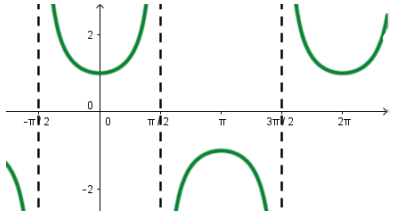
$f(x) = \tan x$



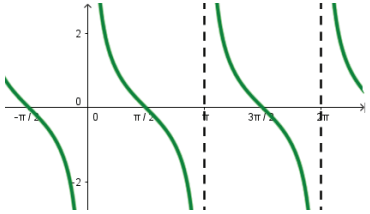
$f(x) = \csc x$



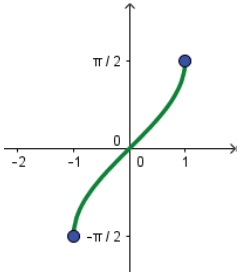
$f(x) = \sec x$



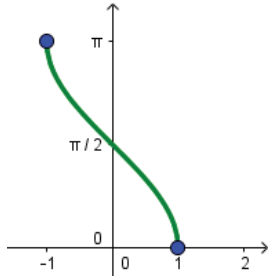
$f(x) = \cot x$



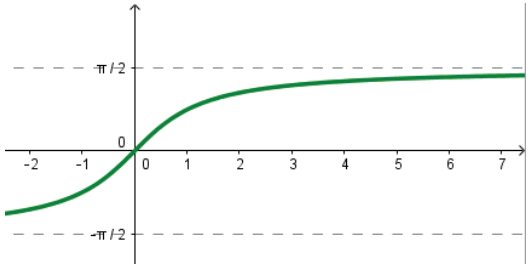
$f(x) = \arcsin x$



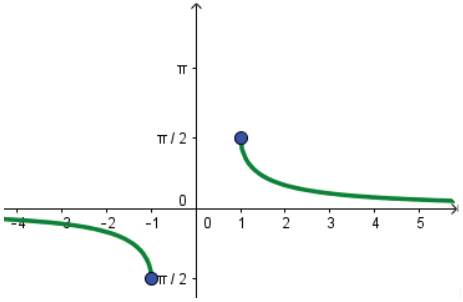
$f(x) = \arccos x$



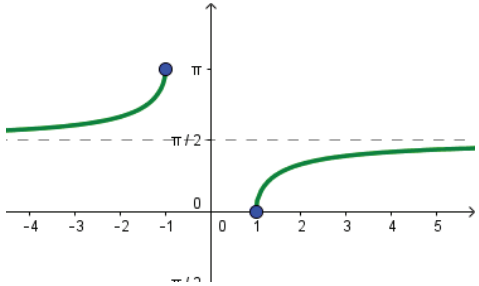
$f(x) = \arctan x$



$f(x) = \operatorname{arccsc} x$



$f(x) = \operatorname{arcsec} x$



$f(x) = \operatorname{arccot} x$