$\int x^n sec^{-1}\frac{x}{a}dx=\frac{(x^{(n+1)})}{(n+1)}sec^{-1}\frac{x}{a}-\frac{a}{(n+1)}\int\frac{(x^n)}{\sqrt{(x^2-a^2)}}dx\,,0<sec^{-1}\frac{x}{a}<\frac{\pi}{2}$ $\frac{x^{(n+1)}}{(n+1)}sec^{-1}\frac{x}{a}+\frac{a}{(n+1)}\int\frac{(x^n)}{\sqrt{(x^2-a^2)}}dx\,,\frac{\pi}{2}<sec^{-1}\frac{x}{a}<\pi$
$\int\frac{1}{x}sec^{-1}\frac{x}{a}dx=\frac{\pi}{2}\ln\|x\|+\frac{a}{x}+\frac{(a^3)}{2.3.3.x^3}+\frac{(1.3.a^5)}{2.4.5.5.x^5}+\frac{(1.3.5.a^7)}{2.4.6.7.7.x^7}+..+c$
$\int\frac{1}{x^2}sec^{-1}\frac{x}{a}dx=\frac{\sqrt{(x^2-a^2)}}{ax}-\frac{1}{x}sec^{-1}\frac{x}{a}+c$
$\int\frac{1}{x^3}sec^{-1}\frac{x}{a}dx=\frac{-1}{(2x^2)}sec^{-1}\frac{x}{a}+\frac{\sqrt{(x^2-a^2)}}{(4a\,x^2)}+\frac{1}{(4a^2)}\cos^{-1}\left\|(\frac{x}{a})\right\|+c$

Integrals Containing Hyperbolic Functions

$\int\sinh ax\,dx=\frac{-1}{a}\cosh ax+c$
$\int\cosh ax\,dx=\frac{1}{a}\sinh ax+c$
$\int\sinh^2 ax\,dx=\frac{1}{2a}\sinh ax\cosh ax-\frac{1}{2}x+c$
$\int\cosh^2 ax\,dx=\frac{1}{2a}\sinh ax\cosh ax+\frac{1}{2}x+c$
$\int\sinh^n ax\,dx=\frac{1}{an}\sinh^{(n-1)}ax\cosh ax-\frac{(n-1)}{n}\int\sinh^{(n-2)}ax\,dx\;for:n>0$ $\frac{1}{(a(n+1))}\sinh^{(n+1)}ax\cosh ax-\frac{(n+2)}{(n+1)}\int\sinh^{(n+2)}ax\,dx\;for:n<0\,,n\neq-1$
$\int\frac{dx}{(\sinh ax)}=\frac{1}{a}\ln\tanh\frac{ax}{2}+c$
$\int\frac{dx}{(\cosh ax)}=\frac{2}{a}\tan^{-1}e^{ax}+c$
$\int x\sinh ax\,dx=\frac{1}{a}x\cosh ax-\frac{1}{a^2}\sinh ax+c$
$\int x\cosh ax\,dx=\frac{1}{a}x\sinh ax-\frac{1}{a^2}\cosh ax+c$
$\int\tanh ax\,dx=\frac{1}{a}\ln\cosh ax+c$