$\int \frac{(x^2 \tan^{-1})}{(1+x^2)} dx = x \tan^{-1} x - \frac{1}{2} \ln(1-x^2) - \frac{1}{2} (\tan^{-1} x)^2 + c$
$\int \frac{(x^3 \tan^{-1} x)}{(1+x^2)} dx = \frac{-1}{2} x + \frac{1}{2} (1+x^2) \tan^{-1} x - \int \frac{(x \tan^{-1} x)}{(1+x^2)} dx$
$\int \frac{(x^4 \tan^{-1} x)}{(1+x^2)} dx = \frac{-1}{6} x^2 + \frac{2}{3} \ln(1+x^2) + (\frac{(x^3)}{6} - x) \tan^{-1} x + \frac{1}{2} (\tan^{-1} x)^2 + c$
$\int \frac{(x \tan^{-1})}{(\sqrt{(1-x^2)})} dx = -\sqrt{(1-x^2)} \tan^{-1} x + \sqrt{(2)} \tan^{-1} (\frac{(x\sqrt{(2)})}{(\sqrt{(1-x^2)})}) - \sin^{-1} x + c$
$\int \frac{(\tan^{-1} x)}{(\alpha + \beta x)^2} dx = \frac{1}{(\alpha^2 + \beta^2)} [\ln \left| (\frac{(\alpha + \beta x)}{(\sqrt{(1+x^2)})}) \right| - \frac{(\beta - \alpha x)}{(\alpha + \beta x)} \tan^{-1} x] + c$
$\int \cot^{-1} \frac{x}{a} dx = x \cot^{-1} \frac{x}{a} + \frac{a}{2} \ln(a^2 + x^2) + c$
$\int x \cot^{-1} \frac{x}{a} dx = \frac{1}{2} (x^2 + a^2) \cot^{-1} \frac{x}{2} + \frac{ax}{2} + c$
$\int x^2 \cot^{-1} \frac{x}{a} dx = \frac{(x^3)}{3} \cot^{-1} \frac{x}{a} + \frac{(a x^2)}{6} - \frac{(a^3)}{6} \ln(x^2 + a^2) + c$

Integrals Containing sec^{-1} & $cosec^{-1}$ Function

$\int sec^{-1} \frac{x}{a} dx = x\, sec^{-1}\, x over\, a - a \ln \left| (x + \sqrt{(x^2 - a^2)}) \right| + c \; for: 0 < sec^{-1} \frac{x}{a} < \frac{\pi}{2}$ $x\, sec^{-1} \frac{x}{a} + a \ln \left| (x + \sqrt{(x^2 - a^2)}) \right| + c \; for: \frac{\pi}{2} < sec^{-1} \frac{x}{2} < \pi$
$\int x\, sec^{-1} \frac{x}{a} dx = \frac{x^2}{2} sec^{-1} \frac{x}{a} - (\frac{a}{2}) \sqrt{(x^2 - a^2)} + c \; for: 0 < sec^{-1} \frac{x}{a} < \frac{\pi}{2}$ $\frac{x^2}{2} sec^{-1} \frac{x}{a} + (\frac{a}{2}) \sqrt{(x^2 - a^2)} + c \; for: \frac{\pi}{2} < sec^{-1} \frac{x}{a} < \pi$
$\int x^2\, sec^{-1} \frac{x}{a} dx = \frac{x^3}{3} sec^{-1} \frac{x}{a} - \frac{ax}{6} \sqrt{(x^2 - a^2)} + \frac{a^3}{6} \ln \left| (x + \sqrt{(x^2 - a^2)}) \right| + c, 0 < sec^{-1} \frac{x}{a} < \frac{\pi}{2}$ $\frac{x^3}{3} sec^{-1} \frac{x}{a} + \frac{ax}{6} \sqrt{(x^2 - a^2)} + \frac{a^3}{6} \ln \left| (x + \sqrt{(x^2 - a^2)}) \right| + c, \frac{\pi}{2} < sec^{-1} \frac{x}{a} < \pi$