$\int sin^2x\ dx$

$\int \ln x\ dx$

$x(\ln x - 1) + c$

$\int \frac{1}{x(x+1)}\ dx$

$\ln|x| - \ln|x+1| + c$

$\int_0^{\frac{\pi}{2}} 2sec\frac{1}{2}x\ tan\frac{1}{2}x\ dx$

$\frac{1}{3}\ln|3x+2| + c$

$\int \frac{2x}{(3x^2+1)}\ dx$

$\int sec^{-\frac{1}{2}}x\ tan\ x\ dx \quad let\ u = sec\ x$

$\frac{1}{3}sec^3x + c$

$\int sin\ x\ cos\ x\ dx$

$\int \frac{cos\ x}{2+3sin\ x}\ dx$

$\frac{1}{3}\ln|2+3sin\ x| + c$

$\int_0^{\frac{\pi}{4}} sin\ 2x\ dx$

$\frac{3\pi}{4} + 2\sqrt{2} - 5$

$\int \frac{2x}{(2x-1)^2}\ dx \quad let\ u = 2x-1$

$\int 3x\sqrt{(x-1)}\ dx$ [integration by parts]

$\frac{3}{5}(x-1)^{\frac{5}{2}} - \frac{4}{3}(x-1)^{\frac{3}{2}} + c$

$2x(x-1)^{\frac{1}{2}}$

$\int_{-1}^{1} cos\ x\ dx$

$\frac{1}{2}x - \frac{1}{4}sin2x + c$

$\int \sqrt{x}\ dx$

$\frac{2}{3}x^{\frac{3}{2}} + c$

$\int 3x^2\ dx$

1

$\frac{1}{4}$

$\int sin\ 3x\ dx$

$-\frac{1}{3}cos\ 3x + c$

$\ln 8$

$\int cos\frac{1}{2}x\ dx$

$2sin\frac{1}{2}x + c$

$\int e^{2x}\ dx$

$\frac{1}{2}e^{2x} + c$

$\int sec^2x\ dx$

$\tan x + c$

$\ln 16$

$\int_3^{12} \frac{x}{x}\ dx$

$\frac{1}{44}(4x+3)^{11} + c$

$\int (4x+3)^{10}\ dx$

$\frac{1}{4}sin2x + c$

$-\frac{1}{2}xcos2x + c$

$\ln\frac{10}{7}$

$\int x\ sin\ 2x\ dx$

$\frac{1}{8}(x^2+3)^4 + c$

$\int x(x^2+3)^3\ dx$

$\int \frac{1}{x(x-1)}\ dx$ write in form $\frac{A}{x} + \frac{B}{x-1}$

$\frac{x}{x-1} + \frac{x}{x}$

$\ln|x| + x + c$

$-\frac{1}{4}cos2x + c$

$\int_0^{\frac{\pi}{2}} cos\ x\ dx$

$4(\sqrt{2} - 1)$

$\frac{1}{2}x - \frac{1}{4}sin2x + c$

$\int sin^2x\ dx$

$\int \ln x\ dx$

$x(\ln x - 1) + c$

$\int \frac{1}{x(x+1)}\ dx$

$\ln|x| - \ln|x+1| + c$

$\int_0^{\frac{\pi}{2}} 2sec\frac{1}{2}x\ tan\frac{1}{2}x\ dx$

$\frac{1}{3}\ln|3x+2| + c$

$\int \frac{2x}{(3x^2+1)}\ dx$

$\int sec^{-\frac{1}{2}}x\ tan\ x\ dx \quad let\ u = sec\ x$

$\frac{1}{3}sec^3x + c$

$\int sin\ x\ cos\ x\ dx$

$\frac{1}{2}\ln|2x-1| - \frac{1}{2(2x-1)} + c$

$\int_0^{\frac{\pi}{4}} sin\ 2x\ dx$

$\frac{3\pi}{4} + 2\sqrt{2} - 5$

$\int \frac{cos\ x}{2+3sin\ x}\ dx$

$\frac{1}{3}\ln|2+3sin\ x| + c$

$\int_0^{\frac{\pi}{2}} (1-2sin\ x)^2\ dx$

$24\frac{1}{6}$

$\int_{-1}^{1} x(x^2+2)^2\ dx$ let $u = x^2+2$

$\int_{-1}^{1} \frac{1}{\sqrt{1-x^2}}\ dx \quad let\ x = 3sin\ u$

$\frac{\pi}{9}$

$\int_5^{15} \frac{3}{x+5}\ dx$

$\frac{1}{3}tan3x - x + c$

$\int tan^2 3x\ dx$

$\ln 8$

$\int_2^3 \frac{3}{(2x+1)(x-1)}\ dx$

$\int_2^{10} \frac{2x+5}{(x-1)(x+1)}\ dx$