$\int \sin 3x \, dx$

$\tan x + c$

$24\frac{1}{9}$

$\int_0^{\frac{\pi}{4}} (1-2\sin x)^2 \, dx$

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

$\ln 16$

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

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

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

$\int \cos^2 2x \, dx$ *write in terms of* $\cos 4x$

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

$\int_2^{10} \frac{2x+5}{(x-1)(x+6)} \, dx$

$\int \sqrt{x} \, dx$

$1$

$\int 3x^2 \, dx$

$\int \frac{1}{x^2(x-1)} \, dx$ *write in terms of* $\frac{1}{x-1}$

$\ln 8$

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

$\int_0^{\pi/6} \sin 2x\,dx$

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

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

$1/4$

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

$\ln 18$

$\int \tan^2 3x\,dx$

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

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

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

$10/7$

$-\frac{1}{2}x\cos 2x+$

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

$\int \sec^3 x \tan x\,dx \quad let\ u=\sec x$

$\int \sin^2 x\,dx$

$\int \ln x\,dx$

$\cos x\,dx$

$\int \sec^2 x \, dx$

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

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

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

$\int_{3}^{12} \frac{1}{2\sqrt{x}}\, dx$

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

$\int_{0}^{\frac{\pi}{2}} 2\sec^2\frac{1}{2}x \tan\frac{1}{2}x \, dx$

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

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

$x^3 + c$

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

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

$\frac{1}{3}\tan 3x$

$\pi/6$

$\int_{0}^{3} \frac{1}{\sqrt{9-x^2}} dx \quad let\ x = 3\sin u$

$\int_{-2}^{-1} x^2(x^3+2)^2 \, dx \quad let\ u = x^3+2$

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

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

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