$\int R(\sin x, \cos x)$ ve $\int R(\sin^2 x, \cos^2 x)$

$\tan\frac{x}{2} = t$

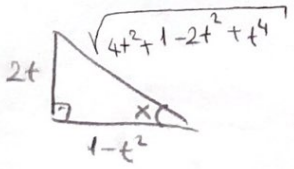
$dx = \frac{2}{1+t^2}\,dt$

$\sin x = \frac{2t}{1+t^2}$

$\cos x = \frac{1-t^2}{1+t^2}$

$\tan x = \frac{2\tan\frac{x}{2}}{1-\tan^2\frac{x}{2}}$

$\tan x = \frac{2t}{1-t^2}$

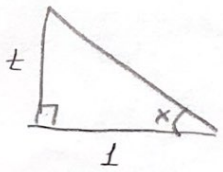


$\tan x = t$

$dx = \frac{dt}{1+t^2}$

$\sin^2 x = \frac{t^2}{1+t^2}$

$\cos^2 x = \frac{1}{1+t^2}$



Örnek

1) $\int \frac{dx}{\sin^2 x \cos^4 x}$

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

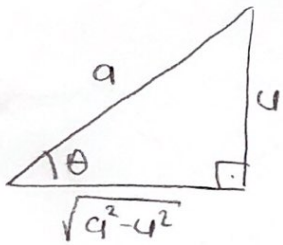
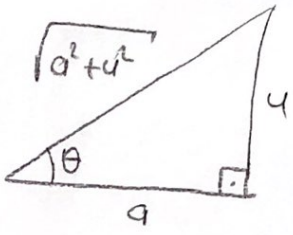
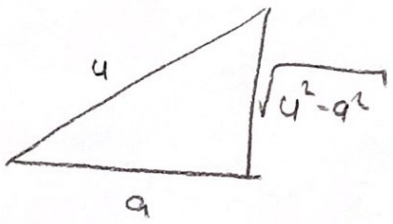
3) $\int \frac{dx}{1+\sin x-\cos x}$

4) $\int \frac{1+\sin x}{1+\cos x}\, dx$

5) $\int \frac{dx}{\sin^3 x}$

Trigonometrik Dönüşümler

Radikal ifadeler içeren integralleri çözmek için trigonometrik dönüşümlerden yararlanınız.

$\sqrt{a^2-u^2}$	$\sqrt{a^2+u^2}$	$\sqrt{u^2-a^2}$
$u = a\sin\theta$ de.	$u = a\tan\theta$ de.	$u = a\sec\theta$ de.
		
$1-\sin^2\theta = \cos^2\theta$ özdeşliğini kullan.	$1+\tan^2\theta = \sec^2\theta$ özdeşliğini kullan.	$\sec^2\theta - 1 = \tan^2\theta$ özdeşliğini kullan.

Örnekler

1) $\int \frac{dx}{x^2\sqrt{9-x^2}}$

(2) $\int \frac{\sqrt{9-x^2}}{x^2}\, dx$

(3) $\int \frac{dx}{\sqrt{4x^2+1}}$

(4) $\int \frac{1}{x^2\sqrt{x^2+4}}\,dx$

(5) $\int \frac{x}{\sqrt{x^2+4}}\, dx$

(6) $\int \frac{\sqrt{x^2-3}}{x}\, dx$

(7) $\int \frac{dx}{\sqrt{x^2-9^2}}$

(8) $\int \frac{x^3}{(4x^2+9)^{3/2}} \, dx$

(9) $\int \frac{x}{\sqrt{3-2x-x^2}}\,dx$