1.– Resolver las integrales siguientes:

a) $\displaystyle\int \operatorname{sen} 3x \operatorname{sen} 2x \; dx$ **b)** $\displaystyle\int \cos 4x \cos 2x \; dx$

c) $\displaystyle\int \operatorname{sen} 3x \cos 5x \; dx$ **d)** $\displaystyle\int \cos 2x \operatorname{sen} 3x \; dx$

2.– Hallar las siguientes integrales:

a) $\displaystyle\int \frac{\cos^4 x}{\operatorname{sen}^5 x} \; dx$ **b)** $\displaystyle\int \operatorname{sen}^2 x \cos^5 x \; dx$

c) $\displaystyle\int \frac{1}{\operatorname{sen}^2 x \cos^2 x} \; dx$ **d)** $\displaystyle\int \frac{1}{\operatorname{sen}^3 x \cos x} \; dx$

3.– Resolver:

a) $\displaystyle\int \frac{1}{\cos x - \operatorname{sen} x} \; dx$ **b)** $\displaystyle\int \frac{5\cos x + 6}{2\cos x + \operatorname{sen} x + 3} \; dx$

c) $\displaystyle\int \frac{1 + \tan x}{1 - \tan x} \; dx$ **d)** $\displaystyle\int \frac{3\operatorname{sen} x + 2\cos x}{2\operatorname{sen} x + 3\cos x} \; dx$

4.– Resolver las integrales siguientes:

a) $\displaystyle\int \frac{\operatorname{sen} x}{1 + \cos x + \cos 2x} \; dx$ **b)** $\displaystyle\int \frac{\tan x}{1 + \operatorname{sen}^2 x \tan^2 x} \; dx$

c) $\displaystyle\int \frac{\operatorname{sen} 2x}{(2 + \operatorname{sen} x)^2} \; dx$ **d)** $\displaystyle\int \frac{1}{\operatorname{sen} x + \operatorname{sen} 2x} \; dx$

e) $\displaystyle\int \frac{\cos x}{\cos 2x} \; dx$ **f)** $\displaystyle\int \frac{1}{\cos x \cos 2x} \; dx$

g) $\displaystyle\int \frac{\cos^2 x}{4\cos^2 x + \operatorname{sen}^2 x} \; dx$ **h)** $\displaystyle\int \frac{\operatorname{sen} 2x}{1 + \operatorname{sen}^2 x} \; dx$

5.– Discutir, según los valores del parámetro a las siguientes integrales:

a) $\displaystyle\int \frac{1}{1 + a\cos^2 x} \; dx$ **b)** $\displaystyle\int \frac{1}{1 + a\operatorname{sen}^2 x} \; dx$

c) $\displaystyle\int \frac{1}{2 - a\operatorname{sen}^2 x} \; dx$ **d)** $\displaystyle\int \frac{1}{3 - a\cos^2 x} \; dx$

6.– Hallar las integrales siguientes:

a) $\displaystyle\int \operatorname{sen}^5 x \sqrt[3]{\cos x} \; dx$ **b)** $\displaystyle\int \frac{1}{\sqrt{\operatorname{sen}^3 x \cos^5 x}} \; dx$

c) $\displaystyle\int \operatorname{sen}^3\left(\frac{x}{2}\right) \cos^5\left(\frac{x}{2}\right) \; dx$ **d)** $\displaystyle\int \frac{1}{\operatorname{sen}\left(\frac{x}{2}\right) \cos^3\left(\frac{x}{2}\right)} \; dx$

e) $\displaystyle\int \operatorname{cotan}^3 x \; \operatorname{cosec}^4 x \; dx$ **f)** $\displaystyle\int \operatorname{cotan}^3 x \; \operatorname{cosec}^3 x \; dx$