1.– Find the following primitives:

a) $\displaystyle\int \frac{x^3}{\sqrt{x-1}}\,dx$ **b)** $\displaystyle\int \frac{1}{x+\sqrt{x+2}}\,dx$

c) $\displaystyle\int \frac{1}{x}\sqrt{\frac{x-1}{x+1}}\,dx$ **d)** $\displaystyle\int \frac{x}{\sqrt{1+x}-\sqrt[3]{1+x}}\,dx$

e) $\displaystyle\int \sqrt{\frac{2-x}{2+x}}\,dx$ **f)** $\displaystyle\int \sqrt{\frac{1+x}{1-x}}\,dx$

2.– Obtain the integrals:

a) $\displaystyle\int \frac{1}{(a^2-x^2)^{3/2}}\,dx$ **b)** $\displaystyle\int \frac{1}{(x^2-a^2)^{3/2}}\,dx$

c) $\displaystyle\int \frac{1}{(a^2+x^2)^{5/2}}\,dx$ **d)** $\displaystyle\int (a^2-x^2)^{1/2}\,dx$

e) $\displaystyle\int \frac{1}{x^3(x^2-1)^{1/2}}\,dx$ **f)** $\displaystyle\int \frac{1}{x^2(x^2+1)^{3/2}}\,dx$

3.– Integrate the following functions:

a) $\displaystyle\int \frac{1}{(4x^2-24x+37)^{3/2}}\,dx$ **b)** $\displaystyle\int \frac{1}{(-4x^2-16x-7)^{3/2}}\,dx$

c) $\displaystyle\int \frac{1}{(x^2+2x)^{3/2}}\,dx$ **d)** $\displaystyle\int \frac{1}{(2-2x+x^2)^{3/2}}\,dx$

e) $\displaystyle\int \frac{1}{(a^2-b^2+2bx-x^2)^{3/2}}\,dx$ **f)** $\displaystyle\int \frac{1}{(b^2-a^2-2bx+x^2)^{3/2}}\,dx$

4.– Solve the following integrals:

a) $\displaystyle\int \frac{x^2}{\sqrt{x^2-x-1}}\,dx$ **b)** $\displaystyle\int \frac{x}{\sqrt{x^2-2x+2}}\,dx$

c) $\displaystyle\int \frac{x-2}{\sqrt{x^2+x+1}}\,dx$ **d)** $\displaystyle\int \frac{x^2+1}{\sqrt{2x^2-1}}\,dx$

e) $\displaystyle\int \frac{1}{(x-1)\sqrt{x^2+2x-4}}\,dx$ **f)** $\displaystyle\int \frac{1}{x^2\sqrt{x^2+2x-1}}\,dx$
