Solución

a) $\int \frac{x^4 - 3x}{x^2 - 1}\,dx = \frac{x^3}{3} + x - \ln(x-1) - 2\ln(x+1) + C$

b) $\int x\ln(x+1)\,dx = \frac{x^2}{2}\ln(1+x) - \frac{x^2}{4} + \frac{x}{2} - \frac{1}{2}\ln(1+x) + C$

c) $\int (5x-4)^7\,dx = \frac{(5x-4)^8}{40} + C$

d) $\int \frac{x^3}{3-5x^4}\,dx = -\frac{1}{20}\ln(3-5x^4) + C$

e) $\int \frac{\sqrt{x-1}}{x}\,dx = 2\sqrt{x-1} - 2\,\text{arctg}\sqrt{x-1} + C$

f) $\int \frac{(x^2-5x+4)dx}{x^3+2x^2-15x} = -\frac{4}{15}\ln x - \frac{1}{12}\ln(x-3) + \frac{27}{20}\ln(x+5) + C$

g) $\int 5e^{4x}dx = \frac{5}{4}e^{4x} + C$

h) $\int \frac{x-1}{x-2x^2}\,dx = \frac{1}{2}\ln(1-2x) - \ln x + C$

i) $\int \frac{e^x+1}{e^x+x}\,dx = \ln(e^x+x) + C$

j) $\int\left(2\,\text{sen}\,3x + 3\cos\frac{x}{2}\right)dx = -\frac{2}{3}\cos 3x + 6\,\text{sen}\,\frac{x}{2} + C$

k) $\int (x+1)\,\text{sen}\,2x\,dx = -\frac{1}{2}(x+1)\cos 2x + \frac{1}{4}\,\text{sen}\,2x + C$

l) $\int x^2e^{3x}\,dx = \left(\frac{x^2}{3} - \frac{2x}{9} + \frac{2}{27}\right)e^{3x} + C$

ll) $\int \frac{x+3}{x^2-2x+1}\,dx = \ln(x-1) - \frac{4}{x-1} + C$