

GUÍA DE EJERCICIOS # 6

MA – 1112

I.- Calcular las siguientes integrales indefinidas:

$$(1) \int \frac{7x+6}{x^2+3x} dx$$

$$(2) \int \frac{x+10}{x^2-x-2} dx$$

$$(3) \int \frac{2x-1}{x^2-x-12} dx$$

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

$$(5) \int \frac{7(4-x^2)}{(x-4)(x-2)(x+3)} dx$$

$$(6) \int \frac{4-x}{x^4-x^2} dx$$

$$(7) \int \frac{2(3x^5+4x^3-x)}{x^6+2x^4-x^2-2} dx$$

$$(8) \int \frac{3x-4}{x^3-x^2-2x} dx$$

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

$$(10) \int \frac{x^4-2x^3+6x^2-11x+2}{x^3-3x^2+2x} dx$$

$$(11) \int \frac{-3x^3+2x-3}{x^2(x^2-1)} dx$$

$$(12) \int \frac{3x^3+8x}{(x^2-2)^2} dx$$

$$(13) \int \frac{4x^3-3x^2+2x-3}{(x^2+3)(x+1)(x-2)} dx$$

$$(14) \int \frac{12x^3+20x^2+28x+4}{3(x^2+2x+3)(x^2+1)} dx$$

$$(15) \int \frac{5x^4+9x^2+3}{x(x^2+1)^2} dx$$

$$(16) \int \frac{3x^2-8x+4}{x^3-4x^2+4x-6} dx$$

$$(17) \int \frac{14x^3+24x}{(x^2+1)(x^2+2)} dx$$

$$(18) \int \frac{3x^2+15x+13}{x^2+4x+3} dx$$

$$(19) \int \frac{x}{(x+1)^2(x^2+1)} dx$$

$$(20) \int \frac{3x^2-x+1}{(x+1)(x^2+2x+2)} dx$$

$$(21) \int \frac{4x+12}{(x-2)(x^2+4x+8)} dx$$

$$(22) \int \frac{x^3+3x+2}{x(x^2+1)} dx$$

$$(23) \int \frac{x^4}{(x-1)(x^2+2)} dx$$

$$(24) \int \frac{x^3}{x^3-1} dx$$

$$(25) \int \frac{e^x}{e^{2x}+3e^x+2} dx$$

$$(26) \int \frac{\sin x}{\cos^2 x - \cos^3 x} dx$$

$$(27) \int \frac{\sqrt{x+1}+2}{(x+1)^2-\sqrt{x+1}} dx$$

$$(28) \int \frac{dx}{\sin x - \cos x + 2}$$

$$(29) \int \frac{dx}{\sin x + \tan x}$$

$$(30) \int \frac{dx}{5+4 \cos x}$$

$$(31) \int \frac{\cos x}{1+2 \cos x} dx$$

$$(32) \int \frac{dx}{\cot x(6+7 \cos 2x)}$$

$$(33) \int \frac{5dx}{6+4 \sec x}$$

II.- Calcular las siguientes integrales definidas:

$$(1) \int_0^1 \frac{2x^3+x}{x^4+x^2+1} dx$$

$$(2) \int_0^1 \frac{2-2x}{x^2+7x+12} dx$$

$$(3) \int_1^2 \frac{3x^2+15x+13}{x^2+4x+3} dx$$

$$(4) \int_{-1}^0 \frac{x^2+4x-1}{x+2} dx$$

$$(5) \int_0^1 \frac{1}{x^3+x^2+2x+2} dx$$

$$(6) \int_0^1 \frac{3x^2}{1+2x^3} dx$$

$$(7) \int_{-1}^1 \frac{2x^3+5x}{x^4+5x^2+6} dx$$

$$(8) \int_1^5 \frac{2x+6}{x(x+1)^2} dx$$

$$(9) \int_1^2 \frac{1}{x^5+4x^4+5x^3} dx$$

$$(10) \int_0^{\frac{\pi}{4}} \frac{8}{1+\tan x} dx$$

$$(11) \int_0^{\frac{\pi}{2}} \frac{\sin 2x}{2+\cos x} dx$$

$$(12) \int_0^{\frac{\pi}{2}} \frac{dx}{3+\cos 2x}$$