GUÍA SOBRE INTEGRALES INDEFINIDAS

PARTE I: VERIFICAR LAS SIGUIENTES INTEGRALES

1) $\int \frac{dx}{\sqrt[3]{x}} = \frac{3\sqrt{x^3}}{2} + K$

2) $\int \sqrt{ax}\, dx = \frac{2x\sqrt{ax}}{3} + K$

3) $\int \frac{4x^2 - 2\sqrt{x}}{x}\, dx = 2x^2 - 4\sqrt{x} + K$

4) $\int \frac{x^3 - 6x + 5}{x}\, dx = \frac{x^3}{3} - 6x + 5Ln(x) + K$

5) $\int \sqrt{a + bx}\, dx = \frac{2\sqrt{(a + bx)^3}}{3b} + k$

6) $\int \frac{dy}{\sqrt{a - by}} = -\frac{2\sqrt{a - by}}{b} + K$

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

8) $\int x(2x + 1)^2\, dx = x^4 + \frac{4x^3}{3} + \frac{x^2}{2} + K$

9) $\int \frac{4x^2\, dx}{\sqrt{x^3 + 8}} = \frac{8\sqrt{x^3 + 8}}{3} + K$

10) $\int \left(\sqrt{a} - \sqrt{x}\right)^2 dx = ax - \frac{4x\sqrt{ax}}{3} + \frac{x^2}{x} + K$

11) $\int \frac{\left(\sqrt{a} - \sqrt{x}\right)^2 dx}{\sqrt{x}} = -\frac{2\left(\sqrt{a} - \sqrt{x}\right)^3}{3} + K$

12) $\int \sqrt{x}\left(\sqrt{a} - \sqrt{x}\right)^2 dx = \frac{2ax^{3/2}}{3} - x^2\sqrt{a} + \frac{2x^{5/2}}{5} + K$

13) $\int x^{n-1}\sqrt{a + bx^n}\, dx = \frac{2\sqrt{(a + bx^n)^3}}{3nb} + K$

14) $\int \frac{2x + 3}{\sqrt{x^2 + 3x}}\, dx = 2\sqrt{x^2 + 3x} + K$

15) $\int \frac{(2 + Lnx)}{x}\, dx = \frac{(2 + Lnx)^2}{2} + K$

16) $\int 6e^{3x}\, dx = 2e^{3x} + K$

17) $\int \sqrt[n]{e^x}\, dx = n\sqrt[n]{e^x} + K$

18) $\int 10^x\, dx = \frac{10^x}{Ln(10)} + K$

19) $\int \frac{tdt}{a + bt^2} = \frac{Ln\left(a + bt^2\right)}{2b} + K$

20) $\int \frac{e^\theta\, d\theta}{a + be^\theta} = \frac{Ln(a + be\theta)}{b} + K$

21) $\int a^{ny}\, dy = \frac{a^{ny}}{nLna} + K$

22) $\int \left(e^{x/a} - e^{-x/a}\right)^2 dx = \frac{a}{2}\left(a^{\frac{2x}{a}} - e^{\frac{-2x}{a}}\right) - 2x + K$

23) $\int \frac{(x + 4)}{2x + 3}\, dx = \frac{x}{2} + \frac{5Ln(2x + 3)}{4} + K$

24) $\int \frac{ae^\theta + b}{ae^\theta - b}\, d\theta = 2Ln\left(ae^\theta - b\right) - \theta + K$

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PARTE II: RESOLVER LAS SIGUIENTES INTEGRALES POR EL MÉTODO DE SUSTITUCIÓN SIMPLE

1) $\int \frac{Ln(x)}{x}\,dx = \frac{1}{2}Ln^2(x) + K$ 2) $\int Sen(ax)Cos(ax)\,dx = \frac{Sen^2(a\,x)}{2a} + K$

3) $\int Sen(2x)\cos^2(2x)\,dx = -\frac{Cos^3(2x)}{6} + K$ 4) $\int \frac{dx}{Sen^2(3x)} = -\frac{C\,tg(3x)}{3} + K$

5) $\int \frac{Cos(ax)\,dx}{\sqrt{b + Sen(ax)}} = \frac{2\sqrt{b + Sen(ax)}}{a} + K$ 6) $\int \frac{dx}{Cos^2(7x)} = \frac{tg(7x)}{7} + K$

7) $\int \frac{dy}{C\,tg(3y)} = -\frac{1}{3}Ln\left|Cos(3y)\right| + K$ 8) $\int tg(\theta)Sec^2(\theta)\,d\theta = \frac{1}{2}tg^2(\theta) + K$

9) $\int \frac{Sen(x)\,dx}{1 - Cos(x)} = LN\left|1 - Cos(x)\right| + K$ 10) $\int \left(C\,tg(e^x)\right)e^x\,dx = Ln\left|Sen(e^x)\right| + K$

11) $\int \left(tg(4s) - C\,tg\,(\frac{s}{4})\right)ds = -\frac{1}{4}Ln\left|Cos(4s)\right| - 4\,Ln\left|Sen\,(\frac{s}{4})\right| + K$

12) $\int \frac{Cos(x)\,dx}{Sen^2(x)} = -\frac{1}{Sen^2(x)} + K$ 13) $\int \frac{Sen(x)}{Cos^3(x)}\,dx = \frac{1}{2\,Cos^2(x)} + K$

14) $\int \frac{tg(x)}{Cos^2(x)}\,dx = \frac{tg^2(x)}{2} + K$ 15) $\int \frac{dx}{Cos^2(x)\sqrt{tg(x) - 1}} = 2\sqrt{tg(x) - 1} + K$

16) $\int \frac{Cos(x)\,dx}{\sqrt{2\,Sen(x) + 1}} = \sqrt{2\,Sen(x) + 1} + k$ 17) $\int \frac{Sen(2x)\,dx}{\sqrt{1 + Sen^2(x)}} = 2\sqrt{1 + Sen^2(x)} + K$

18) $\int \frac{Sen(3x)\,dx}{\sqrt[3]{Cos^4(3x)}} = \frac{1}{\sqrt[3]{Cos(3x)}} + K$ 19) $\int \frac{ArcSen(x)\,dx}{\sqrt{1 - x^2}} = \frac{ArcSen^2(x)}{2} + K$

20) $\int \frac{Arct\,g(x)\,dx}{1 + x^2} = \frac{Arc\,tg^2(x)}{2} + K$ 21) $\int \frac{(x + 1)dx}{x^2 + 2x + 3} = \frac{1}{2}\left(x^2 + 2x + 3\right) + K$

22) $\int \frac{dx}{x\,Ln(x)} = Ln\left|Lnx\right| + K$ 23) $\int tg^4(x)\,dx = \frac{tg^3(x)}{3} - tg(x) + x + K$

24) $\int \frac{dx}{\left(1 + x^2\ arc\,tg(x)\right)} = Ln\left|Arc\,tg(x)\right| + K$ 25) $\int \frac{tg^3(x)}{Cos^2(x)}\,dx = \frac{tg^4(x)}{4} + K$

26) $\int \frac{dx}{\sqrt{1 - x^2}\ ArcSen(x)} = Ln\left|ArcSen(x)\right| + K$

27) $\int 5e^{(ax)}\,dx$ 28) $\int \frac{4\,dt}{\sqrt{e^t}}$ 29) $\int \frac{dx}{4^{(2x)}}$ 30) $\int x^2\,e^{x^3}\,dx$

31) $\int \frac{e^{x}\ dx}{e^{x} - 2}$ 32) $\int \frac{x^{2}\ dx}{e^{x^{3}}}$ 33) $\int te^{2t}\ dt$ 34) $\int Sen\ (\frac{2x}{3})\ dx$

35) $\int Sec(\frac{\theta}{2})\operatorname{tg}(\frac{\theta}{2})d\theta$ 36) $\int Csc\ (\frac{a\theta}{b})C\operatorname{tg}\ (\frac{a\theta}{b})d\theta$ 37) $\int e^{x}\ \operatorname{tg}(e^{x})dx$

38) $\int\left(C\operatorname{tg}(x) - 1\right)^{2}$ 39) $\int\left(1 - Csc(y)\right)^{2} dy$ 40) $\int \frac{dx}{1 - Sen(x)}$

41) $\int \frac{Sen(2x)dx}{3 + \cos(2x)}$ 42) $\int \frac{Cos(t)\ dt}{\sqrt{a + b\ Sen(t)}}$ 43) $\int \frac{Csc^{2}(x)\ dx}{\sqrt{3 - C\operatorname{tg}(x)}}$

44) $\int \frac{Sen(2x)}{\sqrt{1 - Cos(2x)}}dx$ 45) $\int Sen^{3}(x)\ Cos(x)\ dx$ 46) $\int Tg(x)Sec^{2}(x)\ dx$

47) $\int Sen\ (2x)\operatorname{tg}(2x)\ dx$ 48) $\int\left(Csc^{2} x\right)2^{C\operatorname{tg} x}\ dx$

PARTE 3I: RESOLVER USANDO EL MÉTODO DE INTEGRACIÓN POR PARTES

1) $\int xe^{(2x)}dx = \frac{1}{2}xe^{(2x)} - \frac{1}{4}e^{(2x)} + K$ 2) $\int xSec^{2}(x)dx = x\operatorname{tg}(x) - Ln\left|Sec(x)\right| + K$

3) $\int Ln(x)\ dx = xLn(x) - x + K$ 4) $\int x^{2}e^{(2x)}\ dx = \frac{x^{2}}{2}e^{(2x)} + \frac{1}{4}e^{(2x)} + K$

5) $\int e^{(x)}Cos(x)dx = \int e^{(x)}Cos(x)dx$ 6) $\int Sec^{3}(x)dx = \frac{1}{2}Sec(x)\operatorname{tg}(x) + \frac{1}{2}Ln\left|Sec(x) + \operatorname{tg}(x)\right| + K$

7) $\int xLn(x)dx = \frac{1}{2}x^{2}\left(Ln(x) - \frac{1}{2}\right) + K$ 8) $\int x\,Sen(x)dx = -\,xCos(x) + K$

9) $\int ArcSen(x)dx = x\,ArcSen(x) + \sqrt{1 - x^{2}} + K$ 10) $\int x\,Arc\operatorname{tg}(x)dx = \frac{1}{2}\left[\left(x^{2} + 1\right)Arc\operatorname{tg}(x) - x\right] + K$

11) $\int x\,Arc\,Sen(x)dx = \frac{1}{4}\left[2x^{2}Arc\,Sen(x) + x\sqrt{1 - x^{2}}\right] + K(revisar)$

12) $\int Ln\left(x^{2} + 1\right)dx = xLn\left(x + 1\right) - 2x + 2Arc\operatorname{tg}(x) + K$

13) $\int xCos(nx)dx = \frac{Cos(nx)}{n^{2}} + \frac{x\,Sen(nx)}{n} + K$ 14) $\int u\,Sec^{2}(u)du = u\operatorname{tg}(u) + Ln\left|Cos(u)\right| + K$

18) $\int ArcCos(2x)\,dx = x\,ArcCos(2x) - \frac{1}{2}\sqrt{1-4x^2} + K$

19) $\int ArcSen\left[\sqrt{\frac{x}{x+1}}\right]dx = x\,ArcSen\left[\sqrt{\frac{x}{x+1}}\right] - \sqrt{x}\,Arctg(\sqrt{x}) + K$

20) $\int \frac{x\,ArcSen(x)}{\sqrt{1-x^2}}\,dx = x - \sqrt{1-x^2}\,ArcSen(x) + K$

21) $\int \frac{x\,Arctg(x)}{\left(x^2+1\right)^2}\,dx = \frac{x}{4\left(1+x^2\right)} + \frac{1}{4}\,\frac{Arctg(x)}{1+x^2} + K$

22) $\int xArctg\left[\sqrt{x^2-1}\right]dx = \frac{1}{2}\,Arctg\left[\sqrt{x^2-1}\right] - \frac{1}{2}\sqrt{x^2-1} + K$

23) $\int Ln\left(x+\sqrt{1+x^2}\right)dx = x\,Ln\left|x+\sqrt{1+x^2}\right| - \sqrt{1+x^2} + K$

24) $\int Arctg(\sqrt{x})\,dx = \left(x+1\right)\,Arctg(\sqrt{x}) - \sqrt{x} + K$

25) $\int e^{\theta}Cos(\theta)d\theta = \frac{e^{\theta}}{2}\left(Sen(\theta)+Cos(\theta)\right) + K$

26) $\int \frac{Ln\left(x+1\right)}{\sqrt{x+1}} = 2\sqrt{x+1}\left[Ln\left(x+1\right)-2\right] + k$

27) $\int Cos\left(Ln(x)\right)\frac{dx}{x} = Sen\left(Ln(x)\right) + K$

28) $\int e^{Senx}\,Cos(x)\,dx = e^{Senx} + k$

29) $\int 3^x e^x = \frac{3^x e^x}{LN(3)+1} + K$

30) $\int \frac{\left(a^x-b^x\right)^2}{a^x\,b^x}\,dx = \frac{\left(\frac{a}{b}\right)^x - \left(\frac{b}{a}\right)^x}{Lna - Lnb} - 2x + K$

31) $\int \frac{ArcCos(x)-x}{\sqrt{1-x^2}}\,dx = -\frac{1}{2}\left(ArcCos(x)\right)^2 + \sqrt{1-x^2} + K$

32) $\int \frac{x-Arctg(x)}{1+x^2}\,dx = \frac{1}{2}\,Ln\left(1+x^2\right) - \frac{1}{2}\left(Arctg(x)\right)^2 + K$

33) $\int \frac{\sqrt{1+\sqrt{x}}}{\sqrt{x}}\,dx = \frac{4}{3}\sqrt{\left(1+\sqrt{x}\right)^3} + K$

34) $\int \frac{Cos(x)dx}{\sqrt[3]{Sen^2(x)}} = 3\sqrt[3]{Sen(x)} + K$

35) $\int \sqrt{1+3Cos^2(x)}\,Sen(2x)dx = -\frac{2}{9}\sqrt{\left(1+3Cos^2(x)\right)^3} + K$

38) $\int \frac{Cos^3(x)}{Sen^4(x)}\,dx = \frac{1}{Sen(x)} - \frac{1}{3Sen^3(x)} + K$

PARTE 4I: PARA RESOLVER USE EL MÉTODO DE SUSTITUCIÓN TRIGONOMÉTRICA

1) $\int \frac{\sqrt{a^2-x^2}}{x^2}\,dx = -\frac{\sqrt{a^2-x^2}}{x} - ArcSen\left(\frac{x}{a}\right) + K$

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

3) $\int \frac{dx}{x^2\sqrt{1+x^2}} = -\frac{\sqrt{1+x^2}}{x} + K$

4) $\int \frac{dx}{\left(\sqrt{a^2+x^2}\right)^3} = \frac{x}{a^2}\frac{1}{\sqrt{a^2+x^2}} + K$

5) $\int \frac{\sqrt{x^2+a^2}}{x}\,dx = \sqrt{x^2-a^2} - a\,Arc\,Cos\left(\frac{a}{x}\right) + K$

6) $\int \frac{dx}{\sqrt{\left(x^2-2\right)^3}} = \frac{x}{2\sqrt{x^2+2}} + K$

7) $\int \frac{dx}{\sqrt{\left(5-x^2\right)^3}} = \frac{x}{5\sqrt{5-x^2}} + K$

8) $\int \frac{x^2\,dx}{\sqrt{x^2-6}} = \frac{x}{2}\sqrt{x^2-6} + 3Ln\left(x+\sqrt{x^2-6}\right) + K$

9) $\int \frac{t^2\,dt}{\sqrt{4-t^2}} = -\frac{t}{2}\sqrt{4-t^2} + 2\,ArcSen(\frac{t}{2}) + K$

10) $\int \frac{x^2\,dx}{\sqrt{\left(x^2+8\right)^3}} = -\frac{x}{\sqrt{x^2+8}} + Ln\left(x+\sqrt{x^2+8}\right) + K$

11) $\int \frac{u^2\,du}{\left(9-u^2\right)} = \frac{u}{\sqrt{9-u^2}} - ArcSen\left(\frac{u}{3}\right) + K$

12) $\int \frac{dx}{x\sqrt{x^2+4}} = \frac{1}{2}Ln\left(\frac{x}{2+\sqrt{x^2+4}}\right) + K$

13) $\int \frac{dx}{x\sqrt{25-x^2}} = \frac{1}{5}Ln\left(\frac{x}{5+\sqrt{25-x^2}}\right) + K$

14) $\int \frac{dy}{y^2\sqrt{y^2-7}} = \frac{\sqrt{y^2-7}}{7y} + K$

15) $\int \frac{dx}{x^2\sqrt{5-x^2}} = -\frac{\sqrt{5-x^2}}{5x} + K$

16) $\int \frac{dx}{x^3\sqrt{x^2-9}} = \frac{\sqrt{x^2-9}}{18x^2} + \frac{1}{54}ArcSen\left(\frac{x}{3}\right) + K$

17) $\int \frac{\sqrt{16-t^2}}{t^2}dt = -\frac{\sqrt{16-t^2}}{t} - ArcSen\left(\frac{t}{4}\right) + K$

18) $\int \frac{dx}{x^2+9} = \frac{1}{3} Arctg\left(\frac{x}{3}\right) + K$

19) $\int \frac{dx}{x^2-4} = \frac{1}{4} Ln\left(\frac{x-2}{x+2}\right) + K$

20) $\int \frac{dy}{\sqrt{25-y^2}} = Arc\,Sen\left(\frac{y}{5}\right) + K$

21) $\int \frac{ds}{s^2-16} = Ln\left(s+\sqrt{s^2-16}\right) + K$

22) $\int \frac{dx}{9x^2-4} = \frac{1}{12} Ln\left(\frac{3x-2}{3x+2}\right) + K$

23) $\int \frac{dx}{\sqrt{16-9x^2}} = \frac{1}{3} Arc\,Sen\left(\frac{3x}{4} + K\right)$

24) $\int \frac{dx}{9x^2-1} = \frac{1}{6} Ln\left(\frac{3x-1}{3x+1}\right) + K$

25) $\int \frac{dt}{4-9t^2} = \frac{1}{12} Ln\left(\frac{2+3t}{2-3t}\right) + K$

26) $\int \frac{e^x\,dx}{1+e^{2x}} = Arctg(e^x) + K$

27) $\int \frac{Cos(\theta)\,d\theta}{4-Sen^2(\theta)} = \frac{1}{4} Ln\left(\frac{2+Sen(\theta)}{2-Sen(\theta)}\right) + K$

28) $\int \frac{bdx}{a^2x^2-c^2} = \frac{b}{2ac} Ln\left(\frac{ax-c}{ax+c}\right) + K$

29) $\int \frac{5x\,dx}{\sqrt{1-x^4}} = \frac{5}{2} Arc\,Sen(x^2) + K$

30) $\int \frac{ax\,dx}{x^4+b^4} = \frac{a}{2b^2} Arctg\left(\frac{x^2}{b^2}\right) + K$

31) $\int \frac{dt}{(t-2)^2+9} = \frac{1}{3} Arctg\left(\frac{t-2}{3}\right) + K$

32) $\int \frac{dy}{\sqrt{1+a^2y^2}} = \frac{1}{a} LN\left(ay+\sqrt{1+a^2y^2}\right) + K$

33) $\int \frac{du}{\sqrt{4-\left(\overset{2}{u}+3\right)}} = Arc\,Sen\left(\frac{u+3}{2}\right) + K$

37) $\int \frac{dx}{1+2x^2} = \frac{1}{\sqrt{2}} Arctg\left(\sqrt{2x}\right) + K$

38) $\int \frac{dx}{\sqrt{1-3x^2}} = \frac{1}{\sqrt{3}} Arc\,Sen\left(\sqrt{3x}\right) + K$

34) $\int \frac{dx}{16-9x^2} = \frac{1}{3} Arc\,Sen\left(\frac{3x}{4}\right) + K$

35) $\int \frac{dx}{9-x^2} = Arc\ Sen\ \frac{x}{3} + K$

36) $\int \frac{dx}{4+x^2} = \frac{1}{2} Arctg\left(\frac{x}{2}\right) + K$

37) $\int \frac{dx}{9x^2+4} = \frac{1}{6} Arctg\,\frac{3x}{2} + K$

38) $\int \frac{dx}{\sqrt{9+x^2}} = Ln\left|x+\sqrt{x^2+9}\right| + K$

39) $\int \frac{x^2dx}{5-x^6} = \frac{1}{6\sqrt{5}} Ln\left|\frac{x^3+\sqrt{5}}{x^3-\sqrt{5}}\right| + K$

40) $\int \frac{e^x\,dx}{\sqrt{1-e^{2x}}} = ArcSen(e^x) + K$

41) $\int \frac{Cos(x)\,dx}{a^2+sen^2(x)} = \frac{1}{a} Arctg\left(\frac{Sen(x)}{a}\right) + K$

42) $\int \frac{dx}{x\sqrt{1-Ln^2(x)}} = Arc\,Sen\left(Ln(x)\right) + K$

43) $\int \frac{Cos(x)dx}{\sqrt[3]{Sen^2(x)}} = 3\sqrt[3]{Sen(x)} + K$

PARTE V: USE LA COMPLETACIÓN DE CUADRADOS, LUEGO EL MÉTODO DE INTEGRACION ADECUADO

1) $\int \frac{dx}{x^2+4x+3} = \frac{1}{2} Ln\left(\frac{x+1}{x+3}\right) + K$

2) $\int \frac{dx}{2x-x^2-10} = -\frac{1}{3} Arctg\left(\frac{x-1}{3}\right) + K$

3) $\int \frac{3dx}{x^2-8x+25} = Arctg\left(\frac{x-4}{3}\right) + K$

4) $\int \frac{dx}{\sqrt{3x-x^2-2}} = Arc\,Sen(2x-3) + K$

5) $\int \frac{dv}{v^2-6v+5} = \frac{1}{4} Ln\left(\frac{v-5}{v-1}\right) + K$

6) $\int \frac{dx}{2x^2-2x+1} = Arctg\,(2x-1) + K$

7) $\int \frac{dx}{\sqrt{15+2x-x^2}} = Arc\,Sen\left(\frac{x-1}{4}\right) + K$

8) $\int \frac{dx}{4x-x^2} = \frac{1}{4} Ln\left(\frac{x}{x-4}\right) + K$

9) $\int \frac{dy}{y^2-3y+1} = \frac{1}{15} Ln\left(\frac{2y+3-\sqrt{5}}{2y+3+\sqrt{5}}\right) + K$

10) $\int \frac{dx}{\sqrt{1+x+x^2}} = Ln\left(x+\frac{1}{2}+\sqrt{1+x+x^2}\right) + K$

11) $\int \frac{dx}{4x^2+4x+5} = \frac{1}{4} Arctg\left(\frac{2x+1}{2}\right) + K$

12) $\int \frac{dx}{\sqrt{2-3x-4x^2}} = Arc\ Sen\left(\frac{8x+3}{\sqrt{41}}\right) + K$

13) $\int \frac{dx}{x^2+2x-5} = Arctg\left(\frac{x+1}{2}\right) + K$

14) $\int \frac{dx}{3x^2-2x+4} = \frac{1}{\sqrt{11}} Arctg\left(\frac{3x-1}{\sqrt{11}}\right) + K$

15) $\int \frac{dz}{2z^2-2z+5} = Arctg(2z-1) + K$

16) $\int \frac{dx}{3x^2-2x+2} = Ln\left|3x^2-7x+11\right| + K$

17) $\int \frac{(3x-2)\,dx}{5x^2-3x+2} = \frac{3}{10} Ln\left(5x^2-3x+2\right) - \frac{11}{5\sqrt{3}} Arctg \frac{10x-3}{\sqrt{3}} + K$

18) $\int \frac{2x-1}{5x-x+2} = \frac{1}{5} Ln\left(5x^2-x+2\right) + \frac{8}{5\sqrt{39}} Arctg \frac{10x-1}{\sqrt{39}} + K$

19) $\int \frac{dx}{\sqrt{2-3x-4x^2}} = \frac{1}{2} Arc\,Sen \frac{8x+3}{\sqrt{41}} + K$

20) $\int \frac{dx}{\sqrt{5-7x-x^2}} = \frac{1}{\sqrt{3}} Arc\ Sen \frac{6x+7}{\sqrt{109}} + K$

PARTE VI: INTEGRALES DE FUNCIONES RACIONALES (FRACCIONES PARCIALES)

1) $\int \frac{2x-1}{(x-1)(x-2)} = Ln\left|\frac{(x-2)^3}{x-1}\right| + K$ 2) $\int \frac{x\,dx}{(x+1)(x+3)(x+5)} = \frac{1}{8} Ln\left|\frac{(x+3)^6}{(x+5)^5\,(x+1)}\right| + K$

3) $\int \frac{x^5+x^4-8}{x^3-4x}\,dx = \frac{x^3}{3} + \frac{x^2}{2} + 4x + Ln\left|\frac{x^2\,(x-2)^5}{(x+2)^3}\right| + K$

4) $\int \frac{x^4\,dx}{(x^2-1)(x+2)} = \frac{x^2}{2} - 2x + \frac{1}{6} Ln\left[\frac{(x-1)}{(x+1)^3}\right] + \frac{16}{3} Ln(x+2) + K$

5) $\int \frac{(x-8)\,dx}{x^3-4x^2+4x} = \frac{3}{x-2} + Ln\frac{(x-2)^2}{x^2} + K$ 6) $\int \frac{dx}{x\,(x^2+1)} = Ln\left|\frac{x}{\sqrt{x^2+1}}\right| + K$

7) $\int \frac{2x^2-3x-3}{(x-1)(x^2-2x+5)}\,dx = Ln\,\frac{\sqrt{(x^2-2x+5)^3}}{x-1} + \frac{1}{2} Arctg\left[\frac{x-1}{2}\right] + K$

8) $\int \frac{x^3-6}{x^4+6x^2+8}\,dx = Ln\left[\frac{x^2+4}{\sqrt{x^2+2}}\right] + \frac{3}{2} Arctg\,\frac{x}{2} - \frac{3}{\sqrt{2}}\,Arctg\left(\frac{x}{2}\right) + K$

9) $\int \frac{dx}{x^3+1} = \frac{1}{6} Ln\left[\frac{(x+1)^2}{x^2-x+1}\right] + \frac{1}{\sqrt{3}} Arctg\left[\frac{2x-1}{\sqrt{3}}\right] + K$

10) $\int \frac{3x-9}{x^3+x^2+4x+4}\,dx = Ln\left[\frac{x^2+4}{(x+1)^2}\right] + \frac{1}{2}\,Arctg\left(\frac{x}{2}\right) + K$

11) $\int \frac{4\,dx}{x^2+1} = \frac{1}{\sqrt{2}}\,Ln\left[\frac{x^2+x\sqrt{2}+1}{x^2-x\sqrt{2}+1}\right] + \sqrt{2}\,Arctg\left[\frac{x\sqrt{2}}{1-x^2}\right] + K$

12) $\int \frac{x^5}{x^3-1}\,dx = \frac{1}{3}\left[x^3 + Ln\left(x^3-1\right)\right] + K$

13) $\int \frac{x^3+x-1}{(x^2+2)}\,dx = \frac{2-x}{4(x^2+2)} + Ln\sqrt{x^2+2} - \frac{1}{4\sqrt{2}}\,Arctg\left[\frac{x}{\sqrt{2}}\right] + K$

14) $\int \frac{(4x^2-8x)\,dx}{(x-1)^2\,(x^2+12)} = \frac{3x^2-1}{(x-1)(x^2+1)} + Ln\left[\frac{(x-1)^2}{x^2+1}\right] + Arctg(x) + K$

15) $\int \frac{(x^2+6)\,dx}{x^3+3x} = Ln\left[x^2\left(x^2+3\right)\right] + K$ 16) $\int \frac{(x^2+x)\,dx}{(x-1)(x^2+1)} = Ln(x-1) + Arctg(x) + K$

17) $\int \frac{2t^2 - 8t - 8}{(t-2)(t^2+4)}\, dt = 2Ln\left(\frac{t^2+4}{t-2}\right) + K$ 18) $\frac{dz}{z^4 + z^2} = \frac{1}{2}\, Arctg(z) + K$

19) $\int \frac{\left(x^2+6\right) dx}{x^3+3x} = Ln\left[x^2\left(x^2+3\right)\right] + K$ 20) $\int \frac{\left(x^2+x\right) dx}{(x-1)\left(x^2+1\right)} = Ln(x-1) + Arc\,\mathrm{tg}(x) + K$

21) $\int \frac{\left(2t^2 - 8t - 8\right) dt}{(t-2)\, t^2 + 4} = 2Ln\left(\frac{t^2+4}{t-2}\right) + K$ 22) $\int \frac{dz}{z^4+z^2} = \frac{1}{2}\, Arc\,\mathrm{tg}(z) + K$

23) $\int \frac{\left(x^2 + x - 10\right)}{(2x \quad)\left(x^2 \quad\right)} = \frac{1}{2}\, Ln\left[\frac{x^2+4}{2x \;\; 3}\right] + Arc\,\mathrm{tg}\left[\frac{x}{2}\right] + K$

24) $\int \frac{(x-18)\, dx}{4x^3+9x} = Ln\left[\frac{4x^2+9}{x^2}\right] + Arc\,\mathrm{tg}\left[\frac{2x}{3}\right] + K$

25) $\int \left(\frac{x^5 + 9x \quad 9x^2 - 9}{x^3 + 9x}\right) dx = \frac{x^3}{3} - Ln\left[x\left(x^2+9\right)\right] + K$

26) $\int \frac{dx}{x^3 + x^2 + x} = -\frac{1}{2}\, Ln\left[\frac{x^2+1}{x^2}\right] - \frac{\sqrt{3}}{3}\, Arc\,\mathrm{tg}\left[\frac{2x+1}{\sqrt{3}}\right] + K$

27) $\int \frac{\left(x^5 + 4x^3\right)}{\left(x^2+2\right)^3} = \frac{1}{2}\, Ln\left(x^2+2\right) + \frac{1}{\left(x^2+2\right)^3} + K$

28) $\int \frac{\left(2z^2 + 3z \quad dz\right)}{z + 2\left(z^2 - z + 2\right)} = 2Ln\,(z+2) - \frac{1}{t^2+4t} + 5 + K$

NOTA: LOS RESULTADOS DE ALGUNAS INTEGRALES NO ESTAN VERIFICADAS