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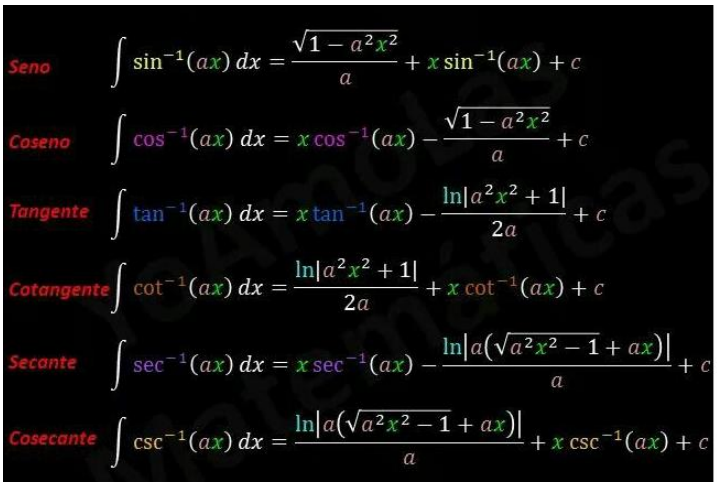
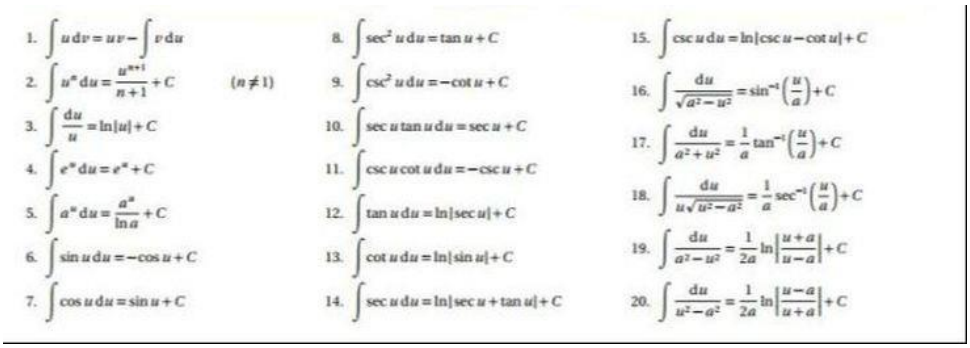
Trabajo sobre problemario

Grupo ``A`` Grado 6º

Integrales de funciones trigonométricas inversas



Integrales de funciones logarítmicas y exponenciales



Integrales de funciones hiperbólicas

$$\int \frac{\sinh^m cx}{\cosh^n cx}\,dx = \frac{\sinh^{m-1} cx}{c(m-n)\cosh^{n-1} cx} + \frac{m-1}{m-n}\int \frac{\sinh^{m-2} cx}{\cosh^n cx}\,dx \qquad (\text{para } m \neq n)$$

$$\int x\sinh cx\,dx = \frac{1}{c}x\cosh cx - \frac{1}{c^2}\sinh cx$$

$$\int x\cosh cx\,dx = \frac{1}{c}x\sinh cx - \frac{1}{c^2}\cosh cx$$

$$\int \tanh cx\,dx = \frac{1}{c}\ln|\cosh cx|$$

$$\int \coth cx\,dx = \frac{1}{c}\ln|\sinh cx|$$

$$\int \tanh^n cx\,dx = -\frac{1}{c(n-1)}\tanh^{n-1} cx + \int \tanh^{n-2} cx\,dx \qquad (\text{para } n \neq 1)$$

$$\int \coth^n cx\,dx = -\frac{1}{c(n-1)}\coth^{n-1} cx + \int \coth^{n-2} cx\,dx \qquad (\text{para } n \neq 1)$$

Integrales de funciones hiperbólicas inversas

66) $$\int \frac{\sin^n cx\,dx}{\cos cx} = -\frac{\sin^{n-1} cx}{c(n-1)} + \int \frac{\sin^{n-2} cx\,dx}{\cos cx} \qquad (\text{for } n \neq 1)$$

67) $$\int \frac{\sin^n cx\,dx}{\cos cx} = -\frac{\sin^{n-1} cx}{c(n-1)} + \int \frac{\sin^{n-2} cx\,dx}{\cos cx} \qquad (\text{for } n \neq 1)$$

68) $$\int \frac{\sin^n cx\,dx}{\cos^m cx} = \frac{\sin^{n+1} cx}{c(m-1)\cos^{m-1} cx} - \frac{n-m+2}{m-1}\int \frac{\sin^n cx\,dx}{\cos^{m-2} cx} \qquad (\text{para } m \neq 1)$$

69) $$\int \frac{\cos cx\,dx}{\sin^n cx} = -\frac{1}{c(n-1)\sin^{n-1} cx} \qquad (\text{para } n \neq 1)$$

70) $$\int \frac{\cos^2 cx\,dx}{\sin cx} = \frac{1}{c}\left(\cos cx + \ln\left|\tan\frac{cx}{2}\right|\right)$$

71) $$\int \frac{\cos^2 cx\,dx}{\sin^n cx} = -\frac{1}{n-1}\left(\frac{\cos cx}{c\sin^{n-1} cx)} + \int \frac{dx}{\sin^{n-2} cx}\right) \qquad (\text{para } n \neq 1)$$

72) $$\int \frac{\cos^n cx\,dx}{\sin^m cx} = -\frac{\cos^{n+1} cx}{c(m-1)\sin^{m-1} cx} - \frac{n-m-2}{m-1}\int \frac{cos^n cx\,dx}{\sin^{m-2} cx} \qquad (\text{para } m \neq 1)$$

73) $$\int \frac{\cos^n cx\,dx}{\sin^m cx} = \frac{\cos^{n-1} cx}{c(n-m)\sin^{m-1} cx} + \frac{n-1}{n-m}\int \frac{cos^{n-2} cx\,dx}{\sin^m cx} \qquad (\text{para } m \neq n)$$

74) $$\int \frac{\cos^n cx\,dx}{\sin^m cx} = -\frac{\cos^{n-1} cx}{c(m-1)\sin^{m-1} cx} - \frac{n-1}{m-1}\int \frac{cos^{n-2} cx\,dx}{\sin^{m-2} cx} \qquad (\text{para } m \neq 1)$$