NOTA:
1.-A cada una de las siguientes formulas debe agregarse una constante de integración.
2.- Todos los argumentos de las formulas trigonométricas están en radianes.
3.-Todos los logaritmos son del sistema natural.

FORMULAS FUNDAMENTALES.:

1.- $\int df(x) = f(x)$

2.- $\int dx = x$

3.- $\int kf(x)dx = k\int f(x)dx$

4.- $\int [u(x) \pm v(x)]dx = \int u(x)dx \pm \int v(x)dx$

5.- $\int x^m dx = \frac{x^{m+1}}{m+1}$

6.- $\int \frac{1}{x} dx = \log|x|$

7.- $\int \frac{1}{\sqrt{x}} dx = 2\sqrt{x}$

8.- $\int \frac{dx}{a^2 + x^2} = \frac{1}{a} arctag \frac{x}{a}$

9.- $\int \frac{dx}{a^2 - x^2} = \frac{1}{2a} \log\left|\frac{a+x}{a-x}\right|$

10.- $\int \frac{dx}{x^2 - a^2} = \frac{1}{2a} \log\left|\frac{a-x}{a+x}\right|$

11.- $\int udv = uv - \int vdu$

12.- $\int u\frac{dv}{dx}dx = uv - \int v\frac{du}{dx}dx$

13.- $\int f(y)dx = \int \frac{f(y)dy}{\frac{dy}{dx}}$

FORMAS QUE CONTIENEN ax+b.

14.- $\int (ax+b)^m dx = \frac{(ax+b)^{m+1}}{a(m+1)}$ $\quad m \neq -1$

15.- $\int \frac{dx}{ax+b} = \frac{1}{a} \log|ax+b|$

16.- $\int \frac{dx}{(ax+b)^2} = -\frac{1}{a(ax+b)}$

17.- $\int \frac{dx}{(ax+b)^3} = -\frac{1}{2a(ax+b)^2}$

18.- $\int x(ax+b)^m dx = \frac{(ax+b)^{m+2}}{a^2(m+2)} - \frac{b(ax+b)^{m+1}}{a^2(m+1)} \qquad (m \neq -1,-2)$

19.- $\int \frac{xdx}{ax+b} = \frac{x}{a} - \frac{b}{a^2}\log|ax+b|$

20. $\int \frac{xdx}{(ax+b)^2} = \frac{b}{a^2(ax+b)} + \frac{1}{a^2}\log|ax+b|$

21.- $\int \frac{xdx}{(ax+b)^3} = \frac{b}{2a^2(ax+b)^2} - \frac{1}{a^2(ax+b)}$

22.- $\int x^2(ax+b)^m dx = \frac{1}{a^3}\left[\frac{(ax+b)^{m+3}}{m+3} - \frac{2b(ax+b)^{m+2}}{m+2} + \frac{b^2(ax+b)^{m+1}}{m+1}\right], (m \neq -1,-2,-3)$

23.- $\int \frac{x^2dx}{ax+b} = \frac{1}{a^3}\left[\frac{1}{2}(ax+b)^2 - 2b(ax+b) + b^2\log|ax+b|\right]$

24.- $\int \frac{x^2dx}{(ax+b)^2} = \frac{1}{a^3}\left[(ax+b) - \frac{b^2}{ax+b} - 2b\log|ax+b|\right]$

25.- $\int \frac{x^2dx}{(ax+b)^3} = \frac{1}{a^3}\left[\log|ax+b| + \frac{2b}{ax+b} - \frac{b^2}{2(ax+b)^2}\right]$

26.- $\int \frac{dx}{x(ax+b)} = \frac{1}{b}\log\left|\frac{x}{ax+b}\right|$

27.- $\int \frac{dx}{x^2(ax+b)} = -\frac{1}{bx} + \frac{a}{b^2}\log\left|\frac{ax+b}{x}\right|$

28.- $\int \frac{dx}{x(ax+b)^2} = \frac{1}{b(ax+b)} - \frac{1}{b^2}\log\left|\frac{ax+b}{x}\right|$

29.- $\int \frac{dx}{x^2(ax+b)^2} = -\frac{2ax+b}{b^2x(ax+b)} - \frac{2a}{b^3}\log\left|\frac{ax+b}{x}\right|$

30.- $\int x^m(ax+b)^n dx = \frac{1}{a(m+n+1)}\left[x^m(ax+b)^{n+1} - mb\int x^{m-1}(ax+b)^n dx\right]$

$= \frac{1}{m+n+1}\left[x^{m+1}(ax+b)^n + nb\int x^m(ax+b)^{n-1}dx\right]$

$(m>0 \ , \ m+n+1 \neq 0)$

Si n es entero positivo esta forma puede ser integrada termino por termino después de expandir $(ax+b)^n$ por el teorema binomial.

31.- $\int x^m (ax+b)^n dx = \frac{1}{a^{m+1}} \int u^n (u-b)^m du$ **(u=ax+b) . Véase la nota después de ñla formula 30.**

32.- $\int \frac{x^m dx}{(ax+b)^n} = \frac{1}{a^{m+1}} \int \frac{(u-b)^m du}{u^n}$ (u=**ax+b) .Véase la nota después de la formula 30.**

FORMAS QUE CONTIENEN :ax+b , y , cx+d.

34.- $\int \frac{dx}{(ax+b)(cx+d)} = \frac{1}{bc-ad} \log \left| \frac{cx+d}{ax+b} \right|$

35.- $\int \frac{xdx}{(ax+b)(cx+d)} = \frac{1}{bc-ad} \left[\frac{b}{a} \log|ax+b| - \frac{d}{c} \log|cx+d| \right]$

36.- $\int \frac{dx}{(ax+b)^2(cx+d)} = \frac{1}{bc-ad} \left[\frac{1}{ax+b} + \frac{c}{bc-ad} \log \left| \frac{cx+d}{ax+b} \right| \right]$

37.- $\int \frac{xdx}{(ax+b)^2(cx+d)} = \frac{1}{bc-ad} \left[-\frac{b}{a(ax+b)} - \frac{d}{bc-ad} \log \left| \frac{cx+d}{ax+b} \right| \right]$

38.-

$$\int \frac{x^2 dx}{(ax+b)^2(cx+d)} = \frac{b^2}{a^2(bc-ad)(ax+b)} + \frac{1}{(bc-ad)^2} \left[\frac{d^2}{c} \log|cx+d| + \frac{b(bc-2ad)}{a^2} \log|ax+b| \right]$$

39.- $\int \frac{ax+b}{cx+d} dx = \frac{ax}{c} + \frac{bc-ad}{c^2} \log|cx+d|$

FORMAS QUE CONTIENEN: ax^2+c

40.- $\int \frac{dx}{ax^2+c} = \frac{1}{\sqrt{ac}} arctag \left(x\sqrt{\frac{a}{c}} \right)$ a>0 , c>0

41.- $\int \frac{dx}{ax^2+c} = \frac{1}{2\sqrt{-ac}} \log \left| \frac{x\sqrt{a}-\sqrt{-c}}{x\sqrt{a}+\sqrt{-c}} \right|$ a>0 , c<0

42.- $\int \frac{dx}{ax^2+c} = \frac{1}{2\sqrt{-ac}} \log \left| \frac{x\sqrt{a}+\sqrt{-c}}{x\sqrt{a}-\sqrt{-c}} \right|$ a<0 , c>0

43.- $\int \frac{xdx}{ax^2+c} = \frac{1}{2a}\log\left|ax^2+c\right|$

44.- $\int \frac{dx}{x(ax^2+c)} = \frac{1}{2c}\log\left|\frac{ax^2}{ax^2+c}\right|$

FORMAS QUE CONTIENEN :X= ax^2+bx + c, D=b^2–4ac

45.- $\int X^m dx = \frac{1}{2a(2m+1)}\left[(2ax+b)X^m - Dm\int X^{m-1}dx\right]$

46.- $\int \frac{dx}{X} = \frac{1}{\sqrt{D}}\log\left|\frac{2ax+b-\sqrt{D}}{2ax+b+\sqrt{D}}\right|$ D>0

47.- $\int \frac{dx}{X} = \frac{2}{\sqrt{-D}}arctag\frac{2ax+b}{\sqrt{-D}}$ D<0

48.- $\int \frac{dx}{X} = -\frac{2}{2ax+b}$

FORMAS QUE CONTIENEN : $\sqrt{ax+b}$, donde : ax+b>0

49.- $\int \sqrt{ax+b}dx = \frac{2}{3a}\sqrt{(ax+b)^3}$

50.- $\int x\sqrt{ax+b}dx = \frac{2(3ax-2b)}{15a^2}\sqrt{(ax+b)^3}$

51.- $\int x^2\sqrt{ax+b}dx = \frac{2(15a^2x^2-12abx+8b^2)}{105a^3}\sqrt{(ax+b)^3}$

52.- $\int \frac{\sqrt{ax+b}dx}{x} = 2\sqrt{ax+b}+\sqrt{b}\log\left|\frac{\sqrt{ax+b}-b}{\sqrt{ax+b}+b}\right|$ b>0

53.- $\int \frac{\sqrt{ax+b}dx}{x} = 2\sqrt{ax+b}-\sqrt{-b}arctag\sqrt{\frac{ax+b}{-b}}$ b<0

54.- $\int \frac{dx}{\sqrt{ax+b}} = \frac{2\sqrt{ax+b}}{a}$

55.- $\int \frac{xdx}{\sqrt{ax+b}} = \frac{2(ax-2b)\sqrt{ax+b}}{3a^2}$

56.- $\int \frac{x\ dx}{\sqrt{ax+b}} = \frac{2(3a^2x^2 - 4abx + 8b^2)\sqrt{ax+b}}{15a^3}$

57.- $\int \frac{dx}{x\sqrt{ax+b}} = \frac{1}{\sqrt{b}} \log \left| \frac{\sqrt{ax+b} - \sqrt{b}}{\sqrt{ax+b} + \sqrt{b}} \right|$ b>0

58.- $\int \frac{dx}{x\sqrt{ax+b}} = \frac{2}{\sqrt{-b}} arctag \sqrt{\frac{ax+b}{-b}}$ b<0

59.- $\int \frac{(cx+d)dx}{\sqrt{ax+b}} = \frac{2}{3a^2}(3ad - 2bc + acx)\sqrt{ax+b}$

60.- $\int \frac{dx}{(cx+d)\sqrt{ax+b}} = \frac{2}{\sqrt{c}\sqrt{ad-bc}} arctag \sqrt{\frac{c(ax+b)}{ad-bc}}$ c>0 , bc<ad

61.- $\int \frac{dx}{(cx+d)\sqrt{ax+b}} = \frac{2}{\sqrt{c}\sqrt{bc-ad}} \log \left| \frac{\sqrt{c(ax+b)} - \sqrt{bc-ad}}{\sqrt{c(ax+b)} + \sqrt{bc-ad}} \right|$

62.- $\int \sqrt{ax+b}\sqrt{cx+d}\,dx = \int \sqrt{acx^2 + (ad+bc)x + bd}\,dx$

FORMAS QUE CONTIENEN : $\sqrt{a^2+x^2}, o, \sqrt{(a^2+x^2)^3}$

63.- $\int \sqrt{a^2+x^2}\,dx = \frac{x}{2}\sqrt{a^2+x^2} + \frac{a^2}{2}\log(x + \sqrt{a^2+x^2})$

64.- $\int x\sqrt{a^2+x^2}\,dx = \frac{1}{3}\sqrt{(a^2+x^2)^3}$

65.- $\int x^2\sqrt{a^2+x^2}\,dx = \frac{x}{4}\sqrt{(a^2+x^2)^3} - \frac{a^2x}{8}\log\sqrt{a^2+x^2} - \frac{a^4}{8}\log(x + \sqrt{a^2+x^2})$

66.- $\int x^3\sqrt{a^2+x^2}\,dx = \left(\frac{1}{5}x^2 - \frac{2}{15}a^2\right)\sqrt{(a^2+x^2)^3}$

67.- $\int \frac{1}{x}\sqrt{a^2+x^2}\,dx = \sqrt{a^2+x^2} - a\log\left|\frac{a+\sqrt{a^2+x^2}}{x}\right|$

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

69.- $\int \frac{1}{x^3}\sqrt{a^2+x^2}\,dx = -\frac{1}{2x^2}\sqrt{a^2+x^2} - \frac{1}{2a}\log\left|\frac{a+\sqrt{a^2+x^2}}{x}\right|$

70.- $\int \frac{dx}{\sqrt{a^2+x^2}} = \log\left(x + \sqrt{a^2+x^2}\right)$

71.- $\int \frac{xdx}{\sqrt{a^2+x^2}} = \left(\sqrt{a^2+x^2}\right)$

72.- $\int \frac{x^2 dx}{\sqrt{a^2+x^2}} = \left(\frac{x}{2}\sqrt{a^2+x^2}\right) - \frac{a^2}{2}\log\left(x+\sqrt{a^2+x^2}\right)$

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

74.- $\int \frac{dx}{x\sqrt{a^2+x^2}} = \frac{1}{a}\log\left|\frac{a+\sqrt{a^2+x^2}}{x}\right|$

75.- $\int \frac{dx}{x^2\sqrt{a^2+x^2}} = -\frac{\sqrt{a^2+x^2}}{a^2 x}$

76.- $\int \frac{dx}{x^3\sqrt{a^2+x^2}} = -\frac{\sqrt{a^2+x^2}}{2a^2x^2} + \frac{1}{2a^3}\log\left|\frac{a+\sqrt{a^2+x^2}}{x}\right|$

FORMAS QUE CONTIENEN $\sqrt{a^2-x^2}, o, \sqrt{\left(a^2-x^2\right)^3}$

77.- $\int \sqrt{a^2-x^2}dx = \frac{1}{2}(x\sqrt{a^2-x^2} + a^2 arcsen\frac{x}{a})$

78.- $\int x\sqrt{a^2-x^2}dx = -\frac{1}{3}\sqrt{(a^2-x^2)^3}$

79.- $\int x^2\sqrt{a^2-x^2}dx = -\frac{x}{3}\sqrt{(a^2-x^2)^3} + \frac{a^2}{8}\left(x\sqrt{a^2-x^2} + a^2 arcsen\frac{x}{a}\right)$

80.- $\int x^3\sqrt{a^2-x^2}dx = (-\frac{1}{5}x^2 - \frac{2}{15}a^2)\sqrt{(a^2-x^2)^3}$

81.- $\int \frac{\sqrt{a^2-x^2}dx}{x} = \sqrt{a^2-x^2} - \log\left|\frac{a+\sqrt{a^2-x^2}}{x}\right|$

82.- $\int \frac{\sqrt{a^2-x^2}dx}{x^2} = -\frac{\sqrt{a^2-x^2}}{x} - arcsen\frac{x}{a}$

83.- $\int \frac{\sqrt{a^2-x^2}dx}{x^3} = -\frac{1}{2x^2}\sqrt{a^2-x^2} + \frac{1}{2a}\log\left|\frac{a+\sqrt{a^2-x^2}}{x}\right|$

84.- $\int \frac{dx}{\sqrt{a^2-x^2}} = arsen\frac{x}{a}$

85.- $\int \frac{xdx}{\sqrt{a^2-x^2}} = -\sqrt{a^2-x^2}$

86.- $\int \frac{x^2 dx}{\sqrt{a^2-x^2}} = -\frac{x}{2}\sqrt{a^2-x^2} + \frac{a^2}{2}arcsen\frac{x}{a}$

87.- $\int \frac{x^3 dx}{\sqrt{a^2-x^2}} = -\frac{1}{3}\sqrt{(a^2-x^2)^3} - a^2\sqrt{a^2-x^2}$

88.- $\int \frac{dx}{x\sqrt{a^2-x^2}} = -\frac{1}{a}\log\left|\frac{a+\sqrt{a^2-x^2}}{x}\right|$

89.- $\int \frac{dx}{x^2\sqrt{a^2-x^2}} = -\frac{\sqrt{a^2-x^2}}{a^2x}$

90.- $\int \frac{dx}{x^3\sqrt{a^2-x^2}} = -\frac{\sqrt{a^2-x^2}}{2a^2x^2} - \frac{1}{2a^3}\log\left|\frac{a+\sqrt{a^2-x^2}}{x}\right|$ .....

FORMAS QUE CONTIENEN : $\sqrt{x^2-a^2}, o, \sqrt{\left(x^2-a^2\right)^3}$

91.- $\int \sqrt{x^2-a^2}dx = \frac{x}{2}\sqrt{x^2-a^2} - \frac{a^2}{2}\log\left|x+\sqrt{x^2-a^2}\right|$

92.- $\int x\sqrt{x^2-a^2}dx = \frac{1}{3}\sqrt{(x^2-a^2)^3}$

93.- $\int x^2\sqrt{x^2-a^2}dx = \frac{x}{4}\sqrt{(x^2-a^2)^3} + \frac{a^2x}{8}\sqrt{x^2-x^2} - \frac{a^2}{8}\log\left|x+\sqrt{x^2-a^2}\right|$

94.- $\int x^3\sqrt{x^2-a^2}dx = \frac{1}{5}\sqrt{(x^2-a^2)^5} + \frac{a^2}{3}\sqrt{(x^2-x^2)^3}$

95.- $\int \frac{\sqrt{x^2-a^2}dx}{x} = \sqrt{x^2-a^2} - aarcsen\frac{a}{x}$

96.- $\int \frac{\sqrt{x^2-a^2}dx}{x^2} = -\frac{1}{x}\sqrt{x^2-a^2} + \log\left|x+\sqrt{x^2-a^2}\right|$

97.- $\int \frac{\sqrt{x^2-a^2}dx}{x^3} = -\frac{1}{2x^2}\sqrt{x^2-a^2} + \frac{1}{2a}ar\cos\frac{a}{x}$

98.- $\int \frac{dx}{\sqrt{x^2-a^2}} = \log\left|x+\sqrt{x^2-a^2}\right|$

99.- $\int \frac{xdx}{\sqrt{x^2-a^2}} = \sqrt{x^2-a^2}$

100.- $\int \frac{x^2dx}{\sqrt{x^2-a^2}} = \frac{x}{2}\sqrt{x^2-a^2} + \frac{a^2}{2}\log\left|x+\sqrt{x^2-a^2}\right|$

101.- $\int \frac{x^3dx}{\sqrt{x^2-a^2}} = \frac{1}{3}\sqrt{(x^2-a^2)^3} + a^2\sqrt{x^2-a^2}$

102.- $\int \frac{dx}{x\sqrt{x^2-a^2}} = \frac{1}{a}ar\cos\frac{a}{x}$

103.- $\int \frac{dx}{x^2\sqrt{x^2-a^2}} = \frac{\sqrt{x^2-a^2}}{a^2x}$

FORMAS QUE CONTIENEN :senx

104.- $\int senxdx = -\cos x$

105.- $\int sen^2 x dx = \frac{x}{2} - \frac{1}{4} sen2x$

106.- $\int sen^3 x dx = \frac{1}{3}\cos^3 x - \cos x$

107.- $\int sen^4 x dx = \frac{3}{8}x - \frac{1}{4} sen2x + \frac{1}{32} sen4x$

108.- $\int \frac{dx}{senx} = \int \cos ecx dx = \log\left|tag\frac{x}{2}\right| = \log|\csc x - ctgx|$

109.- $\int \frac{dx}{sen^2 x} = \int \cos c^2 x dx = -ctgx$

110.- $\int xsenxdx = senx - x\cos x$

111.- $\int x^2 senxdx = 2xsenx - (x^2 - 2)\cos x$

112.- $\int xsen^2 xdx = \frac{x^2}{4} - \frac{x}{4} sen2x - \frac{1}{8}\cos 2x$

113.- $\int x^2 sen^2 xdx = \frac{x^3}{6} - (\frac{x^2}{4} - \frac{1}{8}) sen2x - \frac{x}{4}\cos 2x$

114.- $\int \frac{xdx}{sen^2 x} = -xctgx + \log|senx|$

115.- $\int senaxsenbxdx = \frac{sen(a-b)x}{2(a-b)} - \frac{sen(a+b)x}{2(a+b)}$

116.- $\int \frac{dx}{1+senx} = -tag\left(\frac{\pi}{4} - \frac{x}{2}\right) = tagx - \sec x$

117.- $\int \frac{dx}{1-senx} = tag\left(\frac{\pi}{4} + \frac{x}{2}\right) = tagx + \sec x$

118.- $\int \frac{dx}{a+bsenx} = \frac{-2}{\sqrt{a^2 - b^2}} arctag\left[\sqrt{\frac{a-b}{a+b}} tag\left(\frac{\pi}{4} + \frac{x}{2}\right)\right] .....a^2 > b^2$

119.- $\int \frac{dx}{a+bsenx} = \frac{-1}{\sqrt{b^2 - a^2}} \log \frac{b + asenx + \sqrt{b^2 - a^2}\cos x}{a+bsenx} .....a^2 < b^2$

FORMAS QUE CONTIENEN cosx

120.- 104.- $\int \cos x dx = senx$

121.- $\int \cos^2 x dx = \frac{x}{2} + \frac{1}{4} sen2x$

122.- $\int \cos^3 x dx = senx - \frac{1}{3} sen^3 x$

123.- $\int sen^4 x dx = \frac{3}{8}x + \frac{1}{4} sen2x + \frac{1}{32} sen4x$

124.- $\int \frac{dx}{\cos x} = \int \sec x dx = \log|\sec x + tagx| = \log\left|tg(\frac{\pi}{4} + \frac{x}{2})\right|$

125.- $\int \frac{dx}{\cos^2 x} = \int \sec^2 x dx = tgx$

126.- $\int x\cos x dx = \cos x + xsenx$

127.- $\int x^2 \cos x dx = 2x\cos x + (x^2 - 2)senx$

128.- $\int x\cos^2 x dx = \frac{x^2}{4} + \frac{x}{4} sen2x + \frac{1}{8}\cos 2x$

129.- $\int x^2 \cos^2 x dx = \frac{x^3}{6} + (\frac{x^2}{4} - \frac{1}{8})sen2x - \frac{x}{4}\cos 2x$

130.- $\int \frac{xdx}{\cos^2 x} = -xtgx + \log|\cos x|$

131.- 115.- $\int \cos ax \cos bx dx = \frac{sen(a-b)x}{2(a-b)} + \frac{sen(a+b)x}{2(a+b)}$

132.- $\int \frac{dx}{1+\cos x} = tag\frac{x}{2} = \csc x - ctgx$

133.- $\int \frac{dx}{1-\cos x} = -ctag\frac{x}{2} = -\csc x - ctgx$

134.- $\int \frac{dx}{a+b\cos x} = \frac{2}{\sqrt{a^2-b^2}} arctag\left[\sqrt{\frac{a-b}{a+b}} tag\left(\frac{\pi}{4} + \frac{x}{2}\right)\right] .....a^2 > b^2$

135.- $\int \frac{dx}{a+b\cos x} = \frac{1}{\sqrt{b^2-a^2}} \log\left[\frac{b + a\cos x + \sqrt{b^2-a^2}\, senx}{a+b\cos x}\right] .....a^2 < b^2$

FORMAS QUE CONTIENEN :senx y cosx.

136.- $\int senx\cos x dx = \frac{1}{2} sen^2 x$

137.- $\int senax\cos bx dx = -\frac{\cos(a-b)x}{2(a-b)} - \frac{\cos(a+b)x}{2(a+b)} .....a^2 \neq b^2$

138.- $\int \frac{senxdx}{\cos x} = \int tagxdx = \log|\sec x|$

139.- $\int \frac{\cos xdx}{senx} = \int ctagxdx = \log|senx|$

140.- $\int sen^2 x\cos^2 x dx = \frac{x}{8} - \frac{1}{32} sen4x$

141.- $\int \frac{sen^2 xdx}{\cos x} = -senx + \log\left|tag\left(\frac{\pi}{4} + \frac{x}{2}\right)\right|$

142.- $\int \frac{senxdx}{\cos^2 x} = \sec x$

143.- $\int \frac{\cos^2 xdx}{senx} = \cos x + \log\left|tag\frac{x}{2}\right|$

144.- $\int \frac{\cos xdx}{sen^2 x} = -\csc x$

145.- $\int \frac{dx}{senx\cos x} = \log|tagx|$

146.- $\int \frac{dx}{sen^2 x\cos x} = -\csc x + \log\left|tag\left(\frac{\pi}{4}+\frac{x}{2}\right)\right|$

147.- $\int \frac{dx}{senx\cos^2 x} = \sec x + \log\left|tag\frac{x}{2}\right|$

148.- $\int \frac{dx}{senx+\cos x} = \frac{1}{\sqrt{2}}\log\left|tag\left(\frac{x}{2}+\frac{\pi}{8}\right)\right|$

149.- $\int \frac{dx}{senx-\cos x} = \frac{1}{\sqrt{2}}\log\left|tag\left(\frac{x}{2}-\frac{\pi}{8}\right)\right|$

150.- $\int \frac{dx}{asenx+b\cos x} = \frac{1}{\sqrt{a^2+b^2}}\log\left|tag\frac{1}{2}\left(x+arctag\frac{b}{a}\right)\right|$

151.- $\int \frac{dx}{a^2 sen^2 x+b^2\cos^2 x} = \frac{1}{ab}arctag\left(\frac{a}{b}tagx\right)$

152.- $\int \frac{dx}{a^2 sen^2 x-b^2\cos^2 x} = \frac{1}{2ab}\log\left|\frac{asenx-b\cos x}{asenx+bsenx}\right|$

FORMAS QUE CONTIENEN .tgx, ctgx , secx , cscx.

153.- $\int tagxdx = \log|\sec x|$

154.- $\int tag^2 xdx = tgx - x$

155.- $\int ctagxdx = \log|senx|$

156.- $\int ctg^2 xdx = -ctgx - x$

157.- $\int \sec xdx = \log|\sec x + tgx|$

158.- $\int \sec^2 xdx = tgx$

159.- $\int \csc xdx = \log|\csc x - ctgx|$

160.- $\int \csc^2 xdx = -ctgx$

161.- $\int tgx\sec xdx = \sec x$

162.- $\int ctgx\csc xdx = -\csc x$

163.- $\int \frac{\sec^2 xdx}{tgx} = \log|tgx|$

164.- $\int \frac{\csc^2 xdx}{ctgx} = \log|ctgx|$

FORMAS EXPONENCIALES.-

Para integrales que contienen a ^{x} , *sustituya*, $a^x = e^{xLna}$ **, y use las formas siguientes.**

165.- $\int e^{ax}dx = \frac{1}{a}e^{ax}$

166.- $\int xe^{ax}dx = \frac{e^{ax}}{a^2}(ax-1)$

167.- $\int x^m e^{ax}dx = \frac{1}{a}x^m e^{ax} - \frac{m}{a}\int x^{m-1}e^{ax}dx$

168.- $\int x^p e^{ax}dx = \frac{e^{ax}}{a^{p+1}}\left[(ax)^p - p(ax)^{p-1} + p(p-1)(ax)^{p-2} - \ldots\ldots\ldots + (-1)^p\, p!\right]$,p:entero

169.- $\int \frac{e^{ax}dx}{b+ce^{ax}} = \frac{1}{ac}\log\left|b+ce^{ax}\right|$

170.- $\int \frac{dx}{b+ce^{ax}} = \frac{1}{ab}\log\left|\frac{e^{ax}}{b+ce^{ax}}\right|$

171.- $\int \frac{dx}{ab+be^{cx}} = \frac{1}{c\sqrt{ab}}arctg\left(e^{cx}\sqrt{\frac{a}{b}}\right)$

172.- $\int e^{ax}senbxdx = \frac{e^{ax}}{a^2+b^2}(asenbx - b\cos bx)$

173.- $\int e^{ax}\cos bxdx = \frac{e^{ax}}{a^2+b^2}(a\cos bx - bsenbx)$

FORMAS LOGARITMICAS.

En estas formas x>0.

174.- $\int \log xdx = x(\log x - 1)$

175.- $\int (\log x)^m dx = x(\log x)^m - m\int (\log x)^{m-1}dx$

176.- $\int \frac{dx}{\log x} = \log\left|\log x\right| + \log x + \frac{(\log x)^2}{2\times 2!} + \frac{(\log x)^3}{3\times 3!}\ldots\ldots\ldots\ldots 0 < x < \infty$

177.- $\int \frac{dx}{(\log x)^m} = -\frac{x}{(m-1)(\log x)^{m-1}} + \frac{1}{m-1}\int \frac{dx}{(\log x)^{m-1}}$

178.- $\int x^m \log xdx = x^{m+1}\left[\frac{\log x}{m+1} - \frac{1}{(m+1)^2}\right]., m \neq 1$

179.- $\int \frac{(\log x)^m dx}{x} = \frac{(\log x)^{m+1}}{m+1}$

180.- $\int \frac{dx}{x\log x} = \log\left|\log x\right|$

181.- $\int sen(\log x)dx = \frac{x}{2}\left[sen(\log x) - \cos(\log x)\right]$

182.- $\int \cos(\log x)dx = \frac{x}{2}\left[sen(\log x) + \cos(\log x)\right]$

FORMAS QUE CONTIENEN FUNCIONES TRIGONOMETRICAS INVERSAS.

183.- $\int arcsenxdx = xarcsenx + \sqrt{1-x^2}$

184.- $\int (arcsenx)^2 dx = x(arcsenx)^2 - 2x + 2\sqrt{1-x^2}\,arcsenx$

185.- $\int xarcsenxdx = \frac{1}{4}\left[(2x^2-1)arcsenx + x\sqrt{1-x^2}\ \right]$

186.- $\int \frac{arcsenxdx}{x} = x + \frac{x^3}{2\times 3\times 3} + \frac{x^5}{2\times 4\times 5\times 5} + \frac{x^7}{2\times 4\times 6\times 7\times 7} + ..., x^2 < 1$

187.- $\int \arccos xdx = x\arccos x - \sqrt{1-x^2}$

188.- $\int (\arccos x)^2 dx = x(\arccos x)^2 - 2x - 2\sqrt{1-x^2}\arccos x$

189.- $\int x\arccos xdx = \frac{1}{4}\left[(2x^2-1)\arccos x - x\sqrt{1-x^2}\ \right]$

190.-

$\int \frac{arcsenxdx}{x} = \frac{\pi}{2}\log|x| - x - \frac{x^3}{2\times 3\times 3} + \frac{1\times 3x^5}{2\times 4\times 5\times 5} - \frac{1\times 3\times 5x^7}{2\times 4\times 6\times 7\times 7} - ....., x^2 < 1$

191.- $\int arctagxdx = xarctgx - \log\sqrt{1+x^2}$

192.- $\int x^m arctgxdx = \frac{x^{m+1}arctgx}{m+1} - \frac{1}{m+1}\int \frac{x^{m+1}dx}{1+x^2}, m \neq 1$

193.- $\int arcctgdx = xarcctgx + \log\sqrt{1+x^2}$

194.- $\int x^m arcctgxdx = \frac{x^{m+1}arcctgx}{m+1} + \frac{1}{m+1}\int \frac{x^{m+1}dx}{1+x^2}, m \neq 1$

195.- $\int arc\sec xdx = xarc\sec x - \log\left|x + \sqrt{x^2-1}\right|$

196.- $\int arc\csc xdx = xarc\csc x + \log\left|x + \sqrt{x^2-1}\right|$