

$$\begin{aligned}
66. \quad & \int \sqrt{ax^2 + bx + c} \, dx = \frac{2ax + b}{4a} \sqrt{ax^2 + bx + c} + \frac{4ac - b^2}{8a} \int \frac{1}{\sqrt{ax^2 + bx + c}} \, dx \\
67. \quad & \int \frac{x}{\sqrt{ax^2 + bx + c}} \, dx = \frac{\sqrt{ax^2 + bx + c}}{a} - \frac{b}{2a} \int \frac{1}{\sqrt{ax^2 + bx + c}} \, dx \\
68. \quad & \int \frac{1}{x\sqrt{ax^2 + bx + c}} \, dx = \begin{cases} \frac{-1}{\sqrt{c}} \log \left| \frac{2\sqrt{c}\sqrt{ax^2 + bx + c} + bx + 2c}{x} \right| & (c > 0) \\ \frac{1}{\sqrt{-c}} \operatorname{arc\,sen} \frac{bx + 2c}{|x|\sqrt{b^2 - 4ac}} & (c < 0) \end{cases} \\
69. \quad & \int x^3 \sqrt{x^2 + a^2} \, dx = \left(\frac{1}{5} x^2 - \frac{2}{15} a^2 \right) \sqrt{(a^2 + x^2)^3} \\
70. \quad & \int \frac{\sqrt{x^2 \pm a^2}}{x^4} \, dx = \frac{\mp \sqrt{(x^2 \pm a^2)^3}}{3a^2 x^3} \\
71. \quad & \int \operatorname{sen} ax \operatorname{sen} bx \, dx = \frac{\operatorname{sen}(a-b)x}{2(a-b)} - \frac{\operatorname{sen}(a+b)x}{2(a+b)} \quad (a^2 \neq b^2) \\
72. \quad & \int \operatorname{sen} ax \cos bx \, dx = -\frac{\cos(a-b)x}{2(a-b)} - \frac{\cos(a+b)x}{2(a+b)} \quad (a^2 \neq b^2) \\
73. \quad & \int \cos ax \cos bx \, dx = \frac{\operatorname{sen}(a-b)x}{2(a-b)} + \frac{\operatorname{sen}(a+b)x}{2(a+b)} \quad (a^2 \neq b^2) \\
74. \quad & \int \sec x \tan x \, dx = \sec x \\
75. \quad & \int \csc x \cot x \, dx = -\csc x \\
76. \quad & \int \cos^m x \operatorname{sen}^n x \, dx = \frac{\cos^{m-1} x \operatorname{sen}^{n+1} x}{m+n} + \frac{m-1}{m+n} \int \cos^{m-2} x \operatorname{sen}^n x \, dx \\
& \quad = -\frac{\operatorname{sen}^{n-1} x \cos^{m+1} x}{m+n} + \frac{n-1}{m+n} \int \cos^m x \operatorname{sen}^{n-2} x \, dx \\
77. \quad & \int x^n \operatorname{sen} ax \, dx = -\frac{1}{a} x^n \cos ax + \frac{n}{a} \int x^{n-1} \cos ax \, dx \\
78. \quad & \int x^n \cos ax \, dx = \frac{1}{a} x^n \operatorname{sen} ax - \frac{n}{a} \int x^{n-1} \operatorname{sen} ax \, dx \\
79. \quad & \int x^n e^{ax} \, dx = \frac{x^n e^{ax}}{a} - \frac{n}{a} \int x^{n-1} e^{ax} \, dx \\
80. \quad & \int x^n \log ax \, dx = x^{n+1} \left[\frac{\log ax}{n+1} - \frac{1}{(n+1)^2} \right] \\
81. \quad & \int x^n (\log ax)^m \, dx = \frac{x^{n+1}}{n+1} (\log ax)^m - \frac{m}{n+1} \int x^n (\log ax)^{m-1} \, dx \\
82. \quad & \int e^{ax} \operatorname{sen} bx \, dx = \frac{e^{ax}(a \operatorname{sen} bx - b \cos bx)}{a^2 + b^2} \\
83. \quad & \int e^{ax} \cos bx \, dx = \frac{e^{ax}(b \operatorname{sen} bx + a \cos bx)}{a^2 + b^2} \\
84. \quad & \int \operatorname{sech} x \tanh x \, dx = -\operatorname{sech} x \\
85. \quad & \int \operatorname{csch} x \coth x \, dx = -\operatorname{csch} x
\end{aligned}$$