• $M dx + N dy = 0$

Fator integrante dependente de x: $\frac{1}{N(x)}\left(\frac{\partial M}{\partial y} - \frac{\partial N}{\partial x}\right) \equiv f(x) \therefore F(x) = e^{\int f(x)dx}$.

Fator integrante dependente de y: $\frac{1}{M(x)}\left(\frac{\partial N}{\partial x} - \frac{\partial M}{\partial y}\right) \equiv g(y) \therefore F(y) = e^{\int g(y)dy}$.

• $y' + p(x)y = g(x)y^a \rightleftharpoons u(x) = y^{1-a}$

$r(x)$	y_p
$C_nX^n + C_{n-1}x^{n-1} + ... + C_1x + C_0$	$A_nX^n + A_{n-1}x^{n-1} + ... + A_1x + A_0$
Ce^{rx}	Ae^{rx}
$C\cos kx$	$A\cos kx + B\sin kx$
$C\sin kx$	$A\cos kx + B\sin kx$
$(C_nX^n + C_{n-1}x^{n-1} + ... + C_1x + C_0)e^{rx}$	$(A_nX^n + A_{n-1}x^{n-1} + ... + A_1x + A_0)e^{rx}$
$(C_nX^n + C_{n-1}x^{n-1} + ... + C_1x + C_0)\cos kx$	$(A_nX^n + A_{n-1}x^{n-1} + ... + A_1x + A_0)\cos kx +$ $+(B_nX^n + B_{n-1}x^{n-1} + ... + B_1x + B_0)\sin kx$
$(C_nX^n + C_{n-1}x^{n-1} + ... + C_1x + C_0)\sin kx$	$(A_nX^n + A_{n-1}x^{n-1} + ... + A_1x + A_0)\cos kx +$ $+(B_nX^n + B_{n-1}x^{n-1} + ... + B_1x + B_0)\sin kx$
$Ce^{rx}\cos kx$	$Ae^{rx}\cos kx + Be^{rx}\sin kx$
$Ce^{rx}\sin kx$	$Ae^{rx}\cos kx + Be^{rx}\sin kx$
$(C_nX^n + C_{n-1}x^{n-1} + ... + C_1x + C_0)e^{rx}\cos kx$	$(A_nX^n + A_{n-1}x^{n-1} + ... + A_1x + A_0)e^{rx}\cos kx +$ $+(B_nX^n + B_{n-1}x^{n-1} + ... + B_1x + B_0)e^{rx}\sin kx$
$(C_nX^n + C_{n-1}x^{n-1} + ... + C_1x + C_0)e^{rx}\sin kx$	$(A_nX^n + A_{n-1}x^{n-1} + ... + A_1x + A_0)e^{rx}\cos kx +$ $+(B_nX^n + B_{n-1}x^{n-1} + ... + B_1x + B_0)e^{rx}\sin kx$

• $y_h = C_1y_1 + C_2y_2$ $\qquad y_p = u\,y_1 + v\,y_2$

$u = -\int \frac{r(x)y_2}{W(y_1,y_2)}\,dx$ $\qquad v = \int \frac{r(x)y_1}{W(y_1,y_2)}\,dx$