



First-Order Partial Differential Equations > Nonlinear Equations > Section 3.3

2.  $\frac{\partial w}{\partial x} + f\left(\frac{\partial w}{\partial y}\right) = g(x).$

Complete integral:

$$w = C_1 y - f(C_1)x + \int g(x) dx + C_2,$$

where  $C_1$  and  $C_2$  are arbitrary constants.

### Reference

**Polyanin, A. D., Zaitsev, V. F., and Moussiaux, A.,** *Handbook of First Order Partial Differential Equations*, Taylor & Francis, London, 2002.