First-Order Partial Differential Equations > Linear Equations > Section 1.2

14. $\quad f(y)\dfrac{\partial w}{\partial x} + g(x)\dfrac{\partial w}{\partial y} = h(x, y).$

The transformation

$$\xi = \int g(x)\,dx, \qquad \eta = \int f(y)\,dy$$

leads to an equation of the form 1.2.6 for $w = w(\xi, \eta)$.

Reference

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

http://eqworld.ipmnet.ru/en/solutions/fpde/fpde1214.pdf