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

Complete integral:

$$w = C_1 y + C_2 + \int \sqrt{g(x) - C_1^2 f(x)}\, dx,$$

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.