3. $\dfrac{\partial w}{\partial x} + a\dfrac{\partial w}{\partial y} = f(x)e^{\lambda y}.$

General solution:

$$w = e^{\lambda(y-ax)} \int f(x)e^{a\lambda x}\,dx + \Phi(y-ax),$$

where $\Phi(u)$ is an arbitrary function.

Reference

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