Table Examples of the orders and degrees of ordinary and partial differential equations

Order, degree	Ordinary differential equations	Partial differential equations
First-order, first-degree	(a) $\frac{dN}{dt} = 16 - 4N^2$	(e) $\frac{\partial N}{\partial t} + \frac{\partial (uN)}{\partial x} = 0$
First-order, first-degree	(b) $\frac{dN}{dt} = 3AB - 4NC$	(f) $\frac{\partial u}{\partial t} + u\frac{\partial u}{\partial x} + v\frac{\partial u}{\partial y} = 0$
Second-order, first-degree	(c) $\frac{d^2N}{dt^2} + \frac{dN}{dt} + 5t = 0$	(g) $\frac{\partial^2 N}{\partial t^2} + \frac{\partial^2 N}{\partial x^2} = 3t^2 + x$
Second-order, second-degree	(d) $\left(\frac{d^2N}{dt^2}\right)^2 + \frac{dN}{dt} + 4 = 0$	(h) $\left(\frac{\partial^2 N}{\partial t^2}\right)^2 + \frac{\partial N}{\partial x} = t - x$

The variable t is time, x is west–east distance, y is south–north distance, N, A, B, and C are concentrations, u is west–east scalar velocity, and v is south–north scalar velocity.