



## 6. Higher-Order Partial Differential Equations

1. 
$$\frac{\partial^2 w}{\partial t^2} + \frac{\partial}{\partial x} \left( w \frac{\partial w}{\partial x} \right) + \frac{\partial^4 w}{\partial x^4} = 0. \quad \text{Boussinesq equation.}$$

2. 
$$\frac{\partial w}{\partial y} \frac{\partial}{\partial x} (\Delta w) - \frac{\partial w}{\partial x} \frac{\partial}{\partial y} (\Delta w) = \nu \Delta \Delta w.$$

*Equation of motion of viscous fluid (it is obtained from the Navier–Stokes equations).*

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The EqWorld website presents extensive information on solutions to various classes of ordinary differential equations, partial differential equations, integral equations, functional equations, and other mathematical equations.

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<http://eqworld.ipmnet.ru/en/solutions/npde/npde-toc6.pdf>