(1) $\left(\dfrac{\partial u}{\partial x}\right)^2 + \left(\dfrac{\partial u}{\partial y}\right)^2 + 2gy = 0$

(2) $g\left(\dfrac{\partial u}{\partial y}\right) + \left(\dfrac{\partial u}{\partial x}\right)^2\left(\dfrac{\partial^2 u}{\partial x^2}\right) + \left(\dfrac{\partial u}{\partial x}\right)\left(\dfrac{\partial u}{\partial y}\right)\left(\dfrac{\partial^2 u}{\partial x \partial y}\right) = 0$

g is acceleration of gravity