(7)

6)b) $\frac{\partial^2 \phi}{\partial x^2} + \frac{\partial^2 \phi}{\partial y^2} = a(2-2) = 0$

∴ Yes it does. (If ρ = constant).

c) $P = \frac{\rho U \times}{\mu} = \frac{898\left(\frac{400/60}{3.14 \times 0.045^2}\right) \times 0.09}{0.0574}$

$= 14767.8 > 2100$

∴ turbulent

$H_1 = 0.035 \times \frac{200}{0.09} \times \frac{(400/60)^2}{2 \times 9.8}$

$176.4\ m$