

1. Finished the problem given on Tuesday 15/9/09 (lecture 23)

2. Considered the following equations

$$(i) \quad u_y = 2xyu \quad \text{where } u = u(x, y)$$

$$(ii) \quad u_{xx} + 4u_{xy} + 4u_{yy} = 0$$

where $u = u(x, y)$

Can they [(i)+(ii)] be solved using separation of variables?
If yes solve, if no why not?