Math 142-2, Group work 10

Problem 1

Solve the PDE for $f(x,t)$ given the initial conditions $f(x,0) = s(x)$

$$\frac{\partial f}{\partial t}(x,t) + \frac{x}{t+1}\frac{\partial f}{\partial x}(x,t) = f(x,t) + t + x$$

Problem 2

Solve the PDE for $f(x,y,t)$ given the initial conditions $f(x,y,0) = s(x,y)$

$$\frac{\partial f}{\partial t}(x,y,t) + \frac{\partial f}{\partial x}(x,y,t) + \frac{\partial f}{\partial y}(x,y,t) = 1$$