

Turn in starred problems Tuesday 11/25/2007.

Section 17.7: 7

Section 17.8: 2 (a), (b)*, (c)*, 5*

Section 18.3: 6 (f)*, (i), (l), 10 (a), (c), (e)*, (j)

Comments, hints, instructions: 1. 17.7:7 shows that innocent looking but nonseparated boundary conditions can lead to trouble.

2. For 17.8:2(c) first show that the equation is equivalent to $(xy)'+(\lambda/x)y=0$, which is in Sturm-Liouville form.

3. Concerning 18.3:6: we already did several parts of this problem in which the boundary conditions were homogeneous; the ones I have chosen here are inhomogeneous. You can use any method that you like, but I think that the clearest one is the method I outlined in class: Find the steady-state solution $v(x)$ of the equation and boundary conditions (the book usually calls this $u_s(x)$), so that $w(x,t) = u(x,t) - v(x)$ will satisfy a homogeneous boundary value problem which you already know how to solve.