No problems from this assignment will be collected.

Problems on the Fourier transform and the wave equation:

Section 17.10: 2, 3*, 4 (c), (f), 6 (a), (c), (g)

Section 18.4: 1, 6, 8(a,b)

Section 19.2: 2(a,bc), 5, 8

Section 19.4: 4, 6 (a), (c)

Comments, hints, instructions: 1. Hint for 17.10:3: Treat separately the integrals over $x > 0$ and $x < 0$.

2. In 18.4:8(b) one should use the Laplace transform (in the variable t), not the Fourier transform, although in fact one can guess the form of the solution, and then find it completely, by elementary reasoning.

3. Noticed that the text's hints for 19.2.8 follow exactly the method for inhomogeneous problems that we have discussed: y_p is a particular solution depending only on x.

4. In 19.4.6, follow modified instructions:

(a) Find formulas for $u(x,t)$ for all $t > 0$, from 'Alembert's solution (17). This is a bit awkward because one need different formulas in different regions of x-t space.

(b) Don't try for the tricky graphs that Greenberg requests, unless you are very good at sketching. Rather, draw graphs of $u(x.t)$, as a function of x, for various fixed values of t. To really see what is going on, use $t = 0.5$, $t = 0.1$, $t = 0.2$, and $t = 0.4$.