Homework 1:   Book of Strauss*,* Page 5,  Q2(a)(b) and Q3(c)(d), Due Friday Feb 22
Homework 2:   Due Friday March 1

1. Solve the first-order equation *2 ut + 3 ux = 0* with the initial condition *u(0, x) = sin x*.
2. Solve the first-order equation *(1 + x2) ux + uy = 0.*
3. Exercises 3.5: Q3.1

Homework 3:   Exercises 3.5:  Q3.2, Q3.6, Due Friday March 8

Homework 4: Due Friday March 15

1. Solve the wave equation *utt – c2 uxx = 0* with the initial conditions *u(0, x) = ex, ut(0, x) = sin x*.
2. Exercises 4.8: Q4.2, Q4.4.

Homework 5: Due Friday March 29

Exercises 5.5: Q5.1, Q5.2 (skip the last question “when l1 = l2, …..”), Q5.3..

Homework 6: Due Friday April 5

Exercises 5.5: Q5.4, Q5.6

Homework 7: Due Friday April 12

1. Solve the 1-d diffusion equation *ut – c2 uxx = 0* with the initial condition *u(0, x) = 1 for |x| < l and u(0, x) = 0 for |x| > l.* Write your answer in terms of the error function *Erf(x).*
2. Do the same for *u(0, x) = 1 for x > 0 and u(0, x) = 3 for x < 0.*

Homework 8: Due Friday April 26

Exercises 6.5: Q6.1, Q6.2

Homework 9: Due Friday May 3

Exercises 8.7: Q8.1a, Q8.2a, Q8.3a

Homework 10: Due Friday May 10

Exercises 9.6: Q9.1