Problem Set 9

(1) Reading: Read Section 3.2.

(2) Do problems 4, 5, 6, and 7 from section 2.5 of Evans.

(3) Solve the equation $u_t + uu_x = 0$ with initial condition $u(x,0) = x^2$. On what set is the solution valid?

(4) Solve the equation $u_t + u^2 u_x = 0$ with initial condition $u(x,0) = 2 + x$. On what set is the solution valid?