

HW #3a

Math 182, Spring 2009

Due Friday, February 13, 2009, by 11:00 a.m.

1. Solve

$$u_y + uu_x = 0, \quad u(x, 0) = \begin{cases} 1, & x \leq 0 \\ 1 - \frac{1}{2}x, & 0 < x < 2 \\ 0, & x \geq 2 \end{cases}.$$

2. Solve

$$u_y + uu_x = 0, \quad u(x, 0) = \begin{cases} 3, & x < 0 \\ 4, & x > 0 \end{cases}.$$

3. Solve

$$u_y + uu_x = 0, \quad u(x, 0) = \begin{cases} 4, & x < 1 \\ 3, & x > 1 \end{cases}.$$