

MATH 105B: HOMEWORK 8, DUE WEDNESDAY, APRIL 17, 2019

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§12.3: (8, 10)

§12.4: Use the Method of Characteristics to solve the initial value problem

$$\begin{aligned}\frac{\partial u}{\partial t} + 2t \frac{\partial u}{\partial x} &= 0, & -\infty < x < \infty, \quad t \geq 0, \\ u(x, 0) &= e^{-x^2}.\end{aligned}$$

Sketch the characteristic curves (in the (x, t) -plane).

Note: Exam #3 is on Monday, April 22, and will cover §11.7-11.9 and §12.1-12.4.