

Domain of dependence. Review problem Linear 1st order PDE #02. You *cannot* tell where a solution is defined just by looking at the formula. In this problem the answer has a  $\log(y)$  in it, but this is *not* the reason the solution is not defined for  $y < 0$ . The formula does not change if you replace  $\log(y)$  by  $\log(|y|)$ , and now it makes sense for  $y < 0$ . But you cannot use it anyway!

Example of an envelope. Family of lines:  $x = 1.5*s*y - 0.5*s^3$ .

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