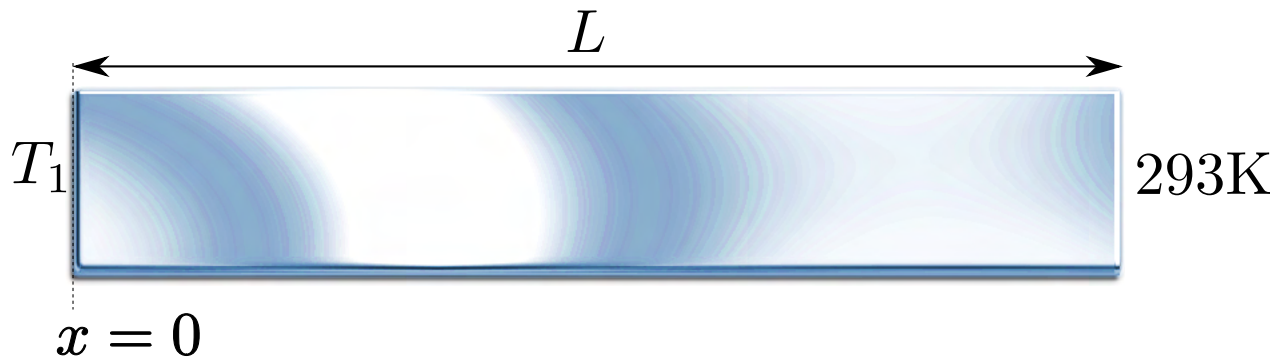# Thermodynamics - Sheet of metal with one side kept hot

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Suppose you have a sheet of metal of stainless steel that is L long with a thermal diffusion coefficient $\kappa = 1\frac{\text{m}^2}{\text{s}}$ at 293K. One side is initially at T_1 and *all* the rest is intitally at 293K, but the other end must stay fixed at 293K.

1. Find $T(x,t)$ with a Gaussian ansatz. Plot the solution in 3-d.