1020-35-23   **Philip Schaefer*** (`schaefer@math.utk.edu`), Department of Mathematics, University of Tennessee, Knoxville, TN 37996-1300. *Lower Bounds for Blow-up Time in Some Parabolic Problems.*

We consider initial-boundary value problems for the semilinear heat equation whose solution may blow up in finite time. We use a differential inequality technique to determine a lower bound for the blow-up time if blow up occurs. Under alternative conditions on the nonlinearity, a second method based on a comparison principle is given as well as some additional bounds on blow-up time are determined. (Received July 14, 2006)