

## Problem 7

Suppose that a sum  $S_0$  is invested at an annual rate of return  $r$  compounded continuously.

- (a) Find the time  $T$  required for the original sum to double in value as a function of  $r$ .
- (b) Determine  $T$  if  $r = 7\%$ .
- (c) Find the return rate that must be achieved if the initial investment is to double in 8 years.