

Homework 3

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1. Suppose a planet has  $m$  days in a year, and life forms have equal probability of being hatched on any of these days. For a random group of  $n$  lifeworms, find the expected proportion of the  $m$  possible hatch days that are represented. Find the value when  $m = 365$  and  $n = 365$  (hint: use indicator variables; the answer is close to  $1 - e^{-1}$ .)