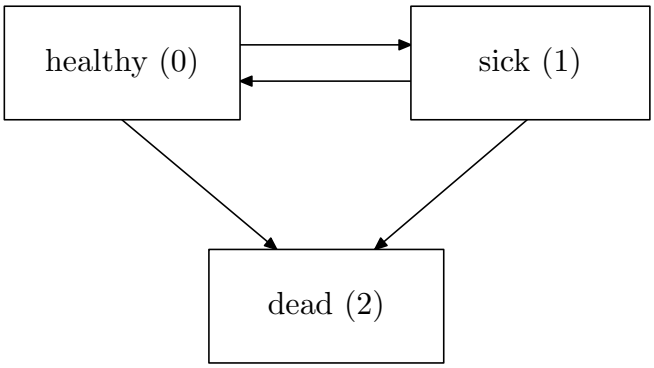
MATH 3631 - Actuarial Mathematics II
Spring 2018 - Valdez
Quiz No. 4
Monday, 5 March 2018

Name: _____ **Student ID:** _____

You are given the following health-sickness model:



The forces of transition are independent of age and are given below:

$$\mu^{01} = 0.05 \qquad \mu^{10} = 0.02 \qquad \mu^{02} = 0.01 \qquad \mu^{12} = 0.06$$

Calculate the probability that a "healthy" life will become "sick" exactly once during the next five years and be in "healthy" state at the end of 5 years.