MAP 4175 / 5177 Name:_____

Quiz 3 Date: September 18, 2019

Each problem is worth 10 points. Show all work for full credit, and use correct notation.

1. Smokers have a constant force of mortality of 0.10 and non-smokers have a constant force of mortality of 0.05. For a population of 30-year olds, 10% are smokers. Determine q_{50} for this population of 30-year olds.

2. Each individual has a constant force of mortality, μ, where μ is drawn from the uniform distribution on the interval [0.02,0.07]. Determine the value of ${}_5q_x$

3. At all ages, males have a force of mortality that is 10% higher than females. If ${}_{20}q_x = 0.2$ for females, determine ${}_{20}q_x$ for males.

For Numbers 4 and 5, use the L-TAM SULT to determine

4. ${}_{10}q_{20}$

5. ${}_{5|10}q_{20}$