

MATH 3630 - Actuarial Mathematics I
Fall 2015 - Valdez
Homework No. 1
due Wednesday, 5:00 PM, 16 September 2015

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Let X be the lifetime (of a newborn) random variable with force of mortality defined by

$$\mu_x = \frac{1}{16\sqrt{x}}, \text{ for } x \geq 0.$$

1. Find an expression for the survival function $S_0(x)$.
2. Show that $S_0(x)$ is a valid survival function.
3. Calculate ${}_{20|10}q_{20}$ and interpret this probability.