

MATH 3630 - Actuarial Mathematics I
Fall 2017 - Valdez
Quiz No. 1
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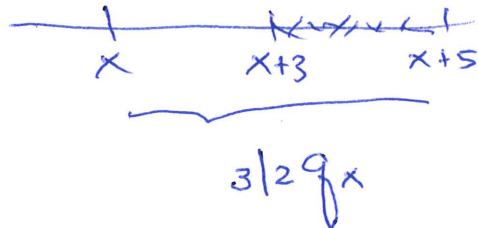
Student ID: Suggested Solution

Suppose you are given the following probabilities:

- ${}_3p_x = 0.75$
- ${}_4p_x = 0.65$
- $p_{x+4} = 0.85$

Calculate the probability that (x) will die between ages $x + 3$ and $x + 5$.

$${}_5p_x = {}_4p_x \times p_{x+4} = .65 * .85 = .5525$$



$$\begin{aligned} {}_3|_2q_x &= {}_3p_x - {}_5p_x \\ &= 0.75 - 0.5525 \\ &= \underline{\underline{0.1975}} \end{aligned}$$