MATH 3630 - Actuarial Mathematics I
Fall 2012 - Valdez
Homework No. 3
due Wednesday, 6:15 PM, 17 October 2012

Please return this page with your signature. Please write your name and student number at the spaces provided:

Name: _____ **Student ID:** _____

I certify that this is my own work, and that I have not copied the work of another student.

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Circle your class lecture: 3–4:15 PM 5–6:15 PM

You are given the following extract from a select and ultimate life table:

$[x]$	$\ell_{[x]}$	$\ell_{[x]+1}$	ℓ_{x+2}	$x+2$
49	–	–	92,250	51
50	–	–	91,700	52
51	–	–	91,050	53
52	–	–	90,300	54

The following relationships also hold for all x:

- $q_{[x]} = 0.70 \times q_{[x-1]+1}$
- $q_{[x]+1} = 0.80 \times q_{x+1}$

Calculate the following:

1. ${}_3p_{[51]}$
2. $\ell_{[52]+1}$