MATH 3630 - Actuarial Mathematics I
Fall 2012 - Valdez
Homework No. 6
due Wednesday, 9:30 PM, 5 December 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.

Signature: _____ **Date:** _____

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

For a special 3-year temporary life annuity on (65), you are given:

- The annuity payments are \$1, \$2, and \$3, respectively, payable at the end of each year while (65) is alive. No further payments made after 3 years.
- Mortality is based on the following extract from a life table:

x	65	66	67	68
ℓ_x	9500	9400	9200	8900

- $i = 5\%$

Calculate the following:

(a) the actuarial present value of this annuity;

(b) the variance of the present value random variable of this annuity; and

(c) the probability that the total present value of payments will be (strictly) less than \$3.