

**MATH 3630 - Actuarial Mathematics I**  
**Fall 2016 - Valdez**  
**Quiz No. 4**  
**Monday, 17 October 2016**

**Name:** \_\_\_\_\_ **Student ID:** \_\_\_\_\_

Two life insurance policies issued to  $(40)$  are actuarially equivalent (that is, they have equal actuarial present values):

- A whole life insurance of 100 payable at the moment of death.
- A special whole life insurance, also payable at the moment of death, that pays 50 for the first 10 years but increases to an amount of  $B$  thereafter.

You are given:

- $\delta = 5\%$
- $\bar{A}_{40} = 0.29$
- $\bar{A}_{50} = 0.40$
- $\bar{A}_{40:\overline{10}|}^1 = 0.08$

Calculate the value of  $B$ .