

295. An employee aged exactly 62 on January 1, 2010 has an annual salary rate of 100,000 on that date.

Salaries are revised annually on December 31 each year.

Future salaries are estimated using the salary scale given in the table below, where $S_y / S_x, y > x$ denotes the ratio of salary earned in the year of age from y to $y+1$ to the salary earned in the year of age x to $x+1$, for a life in employment over the entire period $(x, y+1)$.

x	S_x
62	3.589
63	3.643
64	3.698
65	3.751

The multiple decrement table below models exits from employment:

- (i) $d_x^{(1)}$ denotes retirements.
- (ii) $d_x^{(2)}$ denotes deaths in employment.
- (iii) There are no other modes of exit.

x	l_x	$d_x^{(1)}$	$d_x^{(2)}$
62	52,860	5,068	213
63	47,579	4,560	214
64	42,805	4,102	215
65	38,488	38,488	-

The employee has insurance that pays a death benefit equals to 4 times his salary at death if death occurs while employed and prior to age 65; and pays 0 otherwise. The death benefit is payable at moment of death. Assume deaths occur at mid-year.

The annual effective rate of interest is 0.05.

Calculate the actuarial present value of the death benefit.

- (A) 4,389
- (B) 4,414
- (C) 4,472
- (D) 4,518
- (E) 4,585