

226. Oil wells produce until they run dry. The survival function for a well is given by:

t (years)	$S_0(t)$
0	1.00
1	0.90
2	0.80
3	0.60
4	0.30
5	0.10
6	0.05
7	0.00

An oil company owns 10 wells age 3. It insures them for 1 million each against failure for two years where the loss is payable at the end of the year of failure.

You are given:

- (i) R is the present-value random variable for the insurer's aggregate losses on the 10 wells.
- (ii) The insurer actually experiences 3 failures in the first year and 5 in the second year.
- (iii) $i = 0.10$

Calculate the ratio of the actual value of R to the expected value of R .

- (A) 0.94
- (B) 0.96
- (C) 0.98
- (D) 1.00
- (E) 1.02