

18.2. In a study of 1,000 people with a particular illness, 200 died within one year of diagnosis. Calculate a 95% (linear) confidence interval for the one-year empirical survival function.

- (A) (0.745, 0.855)
- (B) (0.755, 0.845)
- (C) (0.765, 0.835)
- (D) (0.775, 0.825)
- (E) (0.785, 0.815)

18.3. A cohort of 100 newborns is observed from birth. During the first year, 10 drop out of the study and one dies at time 1. Eight more drop out during the next six months, then, at time 1.5, three deaths occur.

Calculate $\hat{S}(1.5)$, the Nelson-Aalen estimator of the survival function, $S(1.5)$.

- (A) 0.950
- (B) 0.951
- (C) 0.952
- (D) 0.953
- (E) 0.954

- 18.10** Initially, 50 lives are included in an observation of survival times following a specific medical treatment. You are given excerpted information from the study data in the table below.

j	$t_{(j)}$	Deaths at $t_{(j)}$	Exits (other than death) in $(t_{(j)}, t_{(j+1)}]$	Entrants in $(t_{(j)}, t_{(j+1)}]$
0			4	0
1	0.2	1	2	3
2	1.8	1	5	0
3	1.9	1	0	0
4	2.1	1	7	0

Calculate the Nelson-Aalen estimate of $S(2)$.

- (A) 0.910
- (B) 0.916
- (C) 0.922
- (D) 0.928
- (E) 0.934

[Question on October 2022 FAM-L Exam]