

204. The length of time, in years, that a person will remember an actuarial statistic is modeled by an exponential distribution with mean $\frac{1}{Y}$. In a certain population, Y has a gamma distribution with $\alpha = \theta = 2$.

Calculate the probability that a person drawn at random from this population will remember an actuarial statistic less than $\frac{1}{2}$ year.

- (A) 0.125
- (B) 0.250
- (C) 0.500
- (D) 0.750
- (E) 0.875