

**116.** For a population of individuals, you are given:

- (i) Each individual has a constant force of mortality.
- (ii) The forces of mortality are uniformly distributed over the interval  $(0,2)$ .

Calculate the probability that an individual drawn at random from this population dies within one year.

- (A) 0.37
- (B) 0.43
- (C) 0.50
- (D) 0.57
- (E) 0.63