

**191.** For the future lifetimes of (x) and (y):

- (i) With probability 0.4,  $T_x = T_y$  (i.e., deaths occur simultaneously).
- (ii) With probability 0.6, the joint density function is

$$f_{T_x, T_y}(t, s) = 0.0005, \quad 0 < t < 40, \quad 0 < s < 50$$

Calculate  $\text{Prob}[T_x < T_y]$ .

- (A) 0.30
- (B) 0.32
- (C) 0.34
- (D) 0.36
- (E) 0.38