

121. Let X represent the age of an insured automobile involved in an accident. Let Y represent the length of time the owner has insured the automobile at the time of the accident.

X and Y have joint probability density function

$$f(x, y) = \begin{cases} \frac{1}{64}(10 - xy^2) & \text{for } 2 \leq x \leq 10 \text{ and } 0 \leq y \leq 1 \\ 0 & \text{otherwise.} \end{cases}$$

Calculate the expected age of an insured automobile involved in an accident.

- (A) 4.9
- (B) 5.2
- (C) 5.8
- (D) 6.0
- (E) 6.4