

124. The joint probability density for X and Y is

$$f(x, y) = \begin{cases} 2e^{-(x+2y)}, & \text{for } x > 0, y > 0 \\ 0, & \text{otherwise.} \end{cases}$$

Calculate the variance of Y given that $X > 3$ and $Y > 3$.

- (A) 0.25
- (B) 0.50
- (C) 1.00
- (D) 3.25
- (E) 3.50