

38. An insurance company insures a large number of homes. The insured value,  $X$ , of a randomly selected home is assumed to follow a distribution with density function

$$f(x) = \begin{cases} 3x^{-4} & \text{for } x > 1 \\ 0 & \text{otherwise.} \end{cases}$$

Given that a randomly selected home is insured for at least 1.5, what is the probability that it is insured for less than 2 ?

- (A) 0.578
- (B) 0.684
- (C) 0.704
- (D) 0.829
- (E) 0.875