

68. An insurance policy reimburses dental expense,  $X$ , up to a maximum benefit of 250. The probability density function for  $X$  is:

$$f(x) = \begin{cases} ce^{-0.004x} & \text{for } x > 0 \\ 0 & \text{otherwise,} \end{cases}$$

where  $c$  is a constant.

Calculate the median benefit for this policy.

- (A) 161
- (B) 165
- (C) 173
- (D) 182
- (E) 250