

129. The cumulative distribution function for health care costs experienced by a policyholder is modeled by the function

$$F(x) = \begin{cases} 1 - e^{-\frac{x}{100}}, & \text{for } x > 0 \\ 0, & \text{otherwise.} \end{cases}$$

The policy has a deductible of 20. An insurer reimburses the policyholder for 100% of health care costs between 20 and 120 less the deductible. Health care costs above 120 are reimbursed at 50%.

Let G be the cumulative distribution function of reimbursements given that the reimbursement is positive.

Calculate $G(115)$.

- (A) 0.683
- (B) 0.727
- (C) 0.741
- (D) 0.757
- (E) 0.777