37. Solution: D

Let T denote printer lifetime. Then $f(t) = \frac{1}{2} e^{-t/2}$, $0 \le t \le \infty$

Note that

$$P[T \le 1] = \int_0^1 \frac{1}{2} e^{-t/2} dt = e^{-t/2} \Big|_0^1 = 1 - e^{-1/2} = 0.393$$

$$P[1 \le T \le 2] = \int_1^2 \frac{1}{2} e^{-t/2} dt = e^{-t/2} \Big|_1^2 = e^{-1/2} - e^{-1} = 0.239$$

Next, denote refunds for the 100 printers sold by independent and identically distributed random variables $Y_1, \ldots, Y_{100}$ where

$$Y_i = \begin{cases} 200 & \text{with probability } 0.393 \\ 100 & \text{with probability } 0.239 \\ 0 & \text{with probability } 0.368 \end{cases} \qquad i = 1, \ldots, 100$$

Now $E[Y_i] = 200(0.393) + 100(0.239) = 102.56$

Therefore, Expected Refunds $= \sum_{i=1}^{100} E[Y_i] = 100(102.56) = 10{,}256$.