Expected no. of empty boxes:

for $i = 1, 2, 3, \ldots 50$

now let a random variable x_i such that

$$x_i = \begin{cases} 1 & \text{if box } i \text{ contains no balls.} \\ 0 & \text{otherwise} \end{cases}$$

let $X = x_1 + x_2 + x_3 + \cdots + x_{50}$

then X is the total no. of boxes which don't have balls

$$E(X) = E(x_1) + E(x_2) + \cdots + E(x_{50})$$

now we can find $E(x_i)$ for any i

$x_i = 1$, if 100 times on a row we choose one of the other boxes

Then $P(x_i = 1) = \left(\frac{49}{50}\right)^{100}$

now $E(x) = 50 \left(\frac{49}{50}\right)^{100}$