84. Let X and Y be the number of hours that a randomly selected person watches movies and sporting events, respectively, during a three-month period. The following information is known about X and Y:

$$\begin{aligned} \mathrm{E}(X) &= 50 \\ \mathrm{E}(Y) &= 20 \\ \mathrm{Var}(X) &= 50 \\ \mathrm{Var}(Y) &= 30 \\ \mathrm{Cov}(X,Y) &= 10 \end{aligned}$$

One hundred people are randomly selected and observed for these three months. Let T be the total number of hours that these one hundred people watch movies or sporting events during this three-month period.

Approximate the value of $\mathrm{P}(T < 7100)$.

(A) 0.62

(B) 0.84

(C) 0.87

(D) 0.92

(E) 0.97