Question

It is an amazing fact that $\sum_{k=1}^{\infty} \frac{1}{k^2} = \frac{\pi^2}{6}$. Which of the following statements is true?

I. $\sum_{k=1}^{n} \frac{1}{k^2}$ is a number close to $\frac{\pi^2}{6}$ when n is large.

II. $\sum_{k=1}^{1000} \frac{1}{k^2}$ is larger than $\frac{\pi^2}{6}$.

A. I. only
B. II. only.
C. Neither is true.
D. Both I. and II. are true.