



Question

Which of the following numbers most accurately approximates the sum of $\sum_{n=0}^{\infty} (-1)^n \frac{(\frac{\pi}{3})^{2n}}{(2n)!} = 1 - \frac{(\frac{\pi}{3})^2}{2!} + \frac{(\frac{\pi}{3})^4}{4!} - \dots$?

- A. 1
- B. $1 - \frac{(\frac{\pi}{3})^2}{2} \approx 0.4516$
- C. $1 - \frac{(\frac{\pi}{3})^2}{2} + \frac{(\frac{\pi}{3})^4}{4!} \approx 0.5017$
- D. 0.5
- E. There is not enough information to answer.