Math 1190 Homework #10

We will talk about this problem on Monday, November 9th.

**Problem:** Let \( p(x) = 2 + 4x + 3x^2 + 5x^3 + 3x^4 + 4x^5 + 2x^6 \). For \( k \) with \( 0 < k < 5 \), define

\[
I_k = \int_0^\infty \frac{x^k}{p(x)}
\]

For which \( k \) is \( I_k \) smallest?