1 Problems

Putnam 1994/B1. Find all positive integers \( n \) that are within 250 of exactly 15 perfect squares.

Putnam 1994/B2. For which real numbers \( c \) is there a straight line which intersects the curve

\[ x^4 + 9x^3 + cx^2 + 9x + 4 \]

in four distinct points?

Putnam 1994/B3. Find the set of all real numbers \( k \) with the following property: For any positive, differentiable function \( f \) that satisfies \( f'(x) > f(x) \) for all \( x \), there is some number \( N \) such that \( f(x) > e^{kx} \) for all \( x > N \).