Remainder Theorem Application

Today's Standard

HSA.APR.B2 - Know and apply the Remainder Theorem: For a polynomial p(x) and a number a, the remainder on division by x - a is p(a), so p(a) = 0 if and only if (x - a) is a factor of p(x).

Cues	Notes
Remainder Theorem Polynomial Division p(a) = 0 Factors of Polynomials Common Misconceptions	The Remainder Theorem states that for a polynomial p(x) and a number a, the remainder on division by x - a is p(a). If p(a) = 0, then x - a is a factor of p(x). The theorem applies to any polynomial p(x) divided by x - a. Common misconceptions include thinking the theorem only applies to linear divisors and that p(a) = 0 for any a. Understanding this theorem helps in solving polynomial equations and is foundational for calculus.

Summary

The Remainder Theorem connects polynomial division to evaluating polynomials at specific points. It is crucial for solving polynomial equations and understanding advanced mathematical concepts.