Simplifying Rational Expressions

Today's Standard

HSA.APR.D6 - Rewrite simple rational expressions in different forms; write a(x)/b(x) in the form q(x) + r(x)/b(x), where a(x), b(x), q(x), and r(x) are polynomials with the degree of r(x) less than the degree of b(x), using inspection, long division, or, for the more complicated examples, a computer algebra system.

Cues	Notes
What is a rational expression?	A rational expression is a fraction where both the numerator and the denominator are polynomials.
How do you rewrite a(x)/b(x)?	To rewrite a(x)/b(x), express it as q(x) + r(x)/b(x), where q(x) is the quotient and r(x) is the remainder.
What methods can be used?	Methods include inspection, long division, and using computer algebra systems.
What is the degree of r(x)?	The degree of r(x) must be less than the degree of b(x).

Summary

Rational expressions can be rewritten in the form q(x) + r(x)/b(x) using various methods. It's important that the remainder r(x) has a degree less than the denominator b(x).