Partial Fraction

17/10/2023

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Partial Fraction

A *rational function* (有理函數), $f(x) = \frac{P(x)}{Q(x)}$, is a ratio of polynomials where the denominator $Q(x) \neq 0$.

Example.

$$\frac{1}{x^2 + 2x - 3} = \frac{1}{4} \left(\frac{-1}{x + 3} + \frac{1}{x - 1} \right)$$

$$\frac{3x + 5}{(1 - 2x)^2} = \frac{13/2}{1 - 2x} + \frac{-3/2}{(1 - 2x)^2}$$

$$\frac{x^4 + x^3 + x^2 + 1}{x^2 + x - 2} = x^2 + 3 + \frac{4/3}{x - 1} + \frac{-13/3}{x + 2}$$

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2

Partial Fraction

Integration of Rational Functions by Partial Fractions

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