Sketching Graphs of Rational Functions: Partial Fractions

Partial Fractions: Use this method when the denominator has a degree higher than or equal to the numerator (assuming the denominator can be factored).

In this method we will use "partial fractions" to rewrite the function as a sum of two or more functions.

Example

Sketch $f(x) = \dfrac{3x+2}{x^2-4}$

Homework: Provide sketches using partial fractions: a) $f(x) = \dfrac{x-5}{x^2-8x+12}$ b) $y = \dfrac{1}{x^2-6x-7}$ c) $f(x) = \dfrac{x-8}{x^2-4}$

Part c) is interesting. Be sure to analyze end behaviour as well as intercepts.