

Sketching Rational Functions

Together:

$$f(x) = \frac{3x+6}{x-2}$$

Provide a sketch for each of the following. At the minimum your sketch should include all asymptotes, correct end-behaviour and intercepts. **If possible** rewrite each equation as a sum of functions to help determine the shape of the final graph.

a) $f(x) = \frac{3x-5}{x+2}$ b) $g(x) = \frac{x^2 - 6x + 9}{x - 3}$ c) $f(x) = \frac{-x^2 - x + 2}{x - 2}$

d) $f(x) = \frac{x^3 - 16}{x}$ e) $f(x) = \frac{3x-1}{x^2-2x-3}$ f) $f(x) = \frac{1}{x^2+1}$