

DEFINITION: A **rational function** is a function of the form

$$r(x) = \frac{P(x)}{Q(x)}$$

where  $P(x)$  and  $Q(x)$  are polynomials with  $Q(x) \neq 0$ .

EXAMPLE:  $f(x) = \frac{1}{x}$ ,  $g(x) = -\frac{7}{4x+3}$ ,  $h(x) = \frac{x^2 + 5x + 11}{2x^4 + x^3 - 5x^2 + 2x - 5}$ , etc.