Section 6.1: Properties of Rational Expressions

Wednesday, November 06, 2013
10:08 AM

rational expression - the quotient or ratio of two polynomials

→ provided that the denominator is not zero

examples:

$\frac{5}{4}$, $3x$, $\frac{5x+2}{x-1}$, $\frac{x+y}{y^2+4y+4}$

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domain of a rational expression is the set of all values of the variable for which the expression is defined

→ in other words, the set of all values of the variable for which the denominator is not zero

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example: give the domain of $\frac{5x+2}{x-1}$

denom is zero if $x-1=0$

$x=1$

so domain is $\{x \mid x \neq 1\}$ set-builder notation

$(-\infty, 1) \cup (1, \infty)$ interval notation