Lesson 1.3.4: Rational Algebraic Expressions

Rational Algebraic Expression: a ratio of two polynomials provided that the denominator is not equal to zero
In short, $\frac{P}{Q}$, where P and Q are polynomials and $Q \neq 0$.

Practice Exercises 1.3.4

A. Find the values for the variable for which each rational expression is undefined.

1. $\frac{5}{2y}$
2. $\frac{5a}{3a-2}$
3. $\frac{2b+6}{b^2-2b+1}$
4. $\frac{r+s}{r^2+3r-10}$
5. $\frac{3m}{m^2-2m-15}$

B. Give the domain of each rational expression.

1. $\frac{5}{3x}$
2. $\frac{a}{5-a}$
3. $\frac{3}{3x+4}$
4. $\frac{2x+1}{x^2+1}$
5. $\frac{7n+6}{4n^2-1}$

Activity 1.3.4

A. Find the values for the variable for which each rational expression is undefined.

1. $\frac{x}{2x+1}$
2. $\frac{5x+1}{4x^2-1}$
3. $\frac{m}{(m-3)^2}$
4. $\frac{a+b}{25a^2-1}$
5. $\frac{n+2}{4n^2-4n+1}$

B. Give the domain of each rational expression.

1. $\frac{x+1}{x^2}$
2. $\frac{7x}{2x-1}$
3. $\frac{m}{m^2-25}$
4. $\frac{x^2+4}{x^2-4}$
5. $\frac{2x^2-1}{4x^2+4x+1}$

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