11.2 Rational Expressions

A rational expression is _____

_____

Since we have an expression containing a denominator, the denominator cannot be equal to zero.
Therefore, we must exclude any values that _____

_____

To find the excluded values of a rational expression:

1) factor the expressions, if necessary
2) solve for the variable

EX: $\dfrac{5x}{x^2 - 81}$

EX: $\dfrac{3a - 2}{a^2 + 6a + 8}$

The simplest form of a rational expression is when the numerator and the denominator have no common factors (except 1).

EX: Simplify $\dfrac{16c^2b^4}{8c^3b}$.

EX: simplify: $\dfrac{12x+36}{x^2-x-12}$

Simplify and state the excluded values:

EX: $\dfrac{x^2 - 2x - 35}{x^2 - 9x + 14}$

EX: $\dfrac{y^2 + 9y - 10}{2y + 20}$

EX: $\dfrac{(-3r)(10r^4)}{6r^5}$