Rational Expressions

A Rational Expression is a QUOTIENT of two POLYNOMIALS.

Examples of Rational Expressions Non Examples of Rational Expressions

$\frac{x^{2}-4}{x+2}$ $\frac{10}{x^{2}-6}$ $\frac{x^{2}-5x+6}{x^{2}+3x+2}$ $\frac{x+2}{3}$ $\frac{2}{5}$ $x^{3}-1$

Remember when…Simplify each expressions

|  |  |  |
| --- | --- | --- |
| a) $\frac{3x^{7}}{2x^{4}}$ | b) $\frac{16x^{11}}{8x^{2}}$ | c) $\frac{12x}{16x^{5}}$ |

Now let’s really have some fun ☺

Factor each expression completely, then cancel out common factors that appear in numerator AND denominator

|  |  |  |
| --- | --- | --- |
| d) $\frac{x^{2}-5x+6}{x^{2}+3x+2}$ | e) $\frac{x-5}{x^{2}-25}$ | f) $\frac{2x^{2}-32}{x^{2}-x-12}$ |

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More practice for you!

|  |  |  |
| --- | --- | --- |
| $$1) \frac{6x-18}{x^{2}-6x+9}$$ | 2) $\frac{x^{2}-49}{x^{2}-4x-21}$ | 3) $\frac{6x^{2}+x-1}{4x^{2}-1}$ |
| 4) $\frac{4x^{2}-36}{3x^{2}-27}$ | 5) $\frac{54xy^{6}}{48x^{3}y}$ | 6) $\frac{32x^{-2}yz^{6}}{48xy^{-4}z^{4}}$ |

**GLUE HERE**