7.2 Simplifying Rational Expressions

Wednesday, June 19, 2019 9:46 AM

FRACTION

Type 1:

* No addition/subtraction signs
1. Reduce #'s
2. Apply properties of exponents to simplify the variables

ex $\dfrac{36x^2}{16x}$ (numerator has more x's)

$\div 4$

$\dfrac{9x}{4}$

ex $\dfrac{9x}{21x^3}$

$\div 3$

$\dfrac{3}{7x^2}$

$x^{1-3} = x^{-2}$

Type 2:

* Will have addition/subtraction signs
1. Factor numerator and denominator
2. Cancel any common factors that are in both numerator and denominator

ex $\dfrac{x^2 - 2x - 8}{5x + 10}$ (A, M) TRI → $\dfrac{(x+2)(x-4)}{5(x+2)} \to \dfrac{x-4}{5}$

GCF: $5x = 5 \cdot x$, $10 = 2 \cdot 5$

-8

-1	$8 \to 7$
1	$-8 \to -7$
-2	$4 \to 2$
2	$-4 \to -2$

$\dfrac{8}{26} \to \dfrac{2 \cdot 4}{2 \cdot 13}$

ex $\dfrac{x-3}{\sqrt{x^2} - \sqrt{9}}$ DNF → FACTOR ✓ $\dfrac{x-3}{(x+3)(x-3)}$ → CANCEL $\dfrac{1}{x+3}$

DOTS: $\sqrt{x^2} \to x$, $\sqrt{9} \to 3$