

ALGEBRA III

1/25/18

Simplifying Rational
Expressions

Warm Up: Simplify each

$$\frac{12}{36} = \frac{1}{3}$$

$$\frac{15a}{12a^2} = \frac{5}{4a}$$

$$\frac{42xy^2}{14xy} = 3y$$

Simplify the expression

$$\frac{3\cancel{12}(a-\cancel{4})}{4(a-\cancel{4})} = 3 \qquad \frac{3(x-\cancel{3})}{4(x-\cancel{3})(x+1)} = \frac{3}{4(x+1)}$$

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Simplify each expression

$$\frac{4x-12}{3-x} = \frac{4(x-\cancel{3})}{(3-\cancel{x})} = 4(-1) = -4$$

$$\frac{x^2 + 12x + 27}{x^2 + 7x + 12} = \frac{(\cancel{x+3})(x+9)}{(\cancel{x+3})(x+4)} = \frac{x+9}{x+4}$$

Simplify each expression

$$\frac{x^2 - 25}{x^2 - 2x - 15} = \frac{(\cancel{x-5})(x+5)}{(\cancel{x-5})(x+3)} = \frac{(x+5)}{(x+3)}$$

$$\frac{(x+4)^2(x-2)}{(2-x)(x+4)(2x+1)} = \frac{-1(x+4)}{2x+1}$$

Homework

p328 #25-41 odd, 49, 50, 54

