

Name: _____ Hour: _____ Date: _____

NOTES: Section 11.3 – Simplifying Rational Expressions

Goals: #1 - I can simplify rational expressions by noticing patterns and factoring.

Homework: Section 11.3 Worksheet



Warm Up:

- Using the given values of x and y and the type of variation listed, write an equation that relates x and y .
 - $x = 24$, $y = 78$; direct

b. $x = 4$, $y = 6$; inverse

Exploration #1: Work with a partner and simplify the following fractions.

1. $\frac{28}{63}$

2. $\frac{77}{44}$

3. $\frac{13}{65}$

Notes:

A _____ number is a number that can be written as a _____.

A fraction whose numerator and denominator are _____ is a _____.

Example:

To _____ rational expressions, we _____ the numerator and denominator and then _____ out any _____ factors.

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Example #1: Simplify the rational expression, if possible.

1. $\frac{14x}{7}$

2. $\frac{6x}{9x^2}$

You practice: Simplify the rational expression, if possible.

1. $\frac{36x^2}{2x}$

2. $\frac{5x}{40x^3}$

Example #2: Simplify the rational expression, if possible.

1. $\frac{x(x^2 + 6)}{x^2}$

2. $\frac{x}{x + 4}$

You practice: Simplify the rational expression, if possible.

1. $\frac{5(3 - x)}{5x}$

2. $\frac{2x^2}{x(x + 5)}$

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Example #3: Simplify the rational expression, if possible.

1. $\frac{2x^2 - 6x}{6x^2}$

2. $\frac{4m^3}{2m^3 + 8m^2}$

You practice: Simplify the rational expression, if possible.

1. $\frac{5x}{10x^2 - 5x}$

2. $\frac{p^3 - p^2}{p^2}$

Example #4: Simplify the rational expression, if possible.

1. $\frac{x^2 - 2x - 3}{x - 3}$

2. $\frac{x^2 - 4}{x^2 - x - 2}$

You practice: Simplify the rational expression, if possible.

1. $\frac{2n^2 - 8n + 8}{n - 2}$

2. $\frac{y^2 + 3y - 28}{y^2 - 16}$