Class # 31 - Thurs Nov 11

- rational expressions (started last time)

3 WebWork sets (as of now)

- "Reducing Rational Expressions" (Sec 7.1)

simplifying by cancelling common factors from numerator and denominator.

- "Add Rational Expressions"
- " " 2" } (Sec 7.2)

WW: "Reducing Rat'l..."

Last time: #1

#2: Simplify: $\dfrac{20x^2+140x}{45x+315} = \dfrac{5(4x^2+28x)}{8(9x+63)}$

$$= \frac{4x(x+7)}{9(x+7)}$$

#3 (1) $4x^2+4x = 4x(x+1)$

(2) $14x+14 = 14(x+1)$

(3) $\dfrac{4x^2+4x}{14x+14} = \dfrac{4x(x+1)}{14(x+1)}$

#3 $\dfrac{2x^2-2x-4}{3x^2+3x} = \dfrac{2(x+1)(x-2)}{3x(x+1)} = \dfrac{2(x-2)}{3x}$

factor?

$2x^2-2x-4 = 2(x^2-1x-2) = 2(x+1)(x-2)$ ✓

factoring x^2+bx+c (using "ac-method")

Read in OpenStax:

§ 7.1 (Example 7.2)

Adding / Subtracting Rational Expressions

Sec 7.2 (Examples: 7.13★, 7.14

WW: "Add Rational Expressions"

#1: $\frac{24}{7x} + \frac{18}{7x} = \frac{24+18}{7x} = \frac{42}{7x} = \frac{7(6)}{7x}$

#2: $\frac{x}{x^2-49} + \frac{7}{x^2-49} = \frac{x+7}{x^2-49} = \frac{(x+7)}{(x+7)(x-7)}$

#3: $\frac{4x+36}{4x^2+16x-180} = \frac{2(2x+18)}{2(2x^2+8x-90)}$ "difference of squares" $= \frac{1}{x-7}$

$= \frac{2x+18}{2x^2+8x-90} = \frac{2(x+9)}{2(x^2+4x-45)} = \frac{(x+9)}{(x+9)(x-5)}$