

$$\textcircled{15} \frac{5x}{x^2-x-6} + \frac{4}{x^2+4x+4}$$

$$\frac{5(x+2)}{(x-3)(x+2)} + \frac{4(x-3)}{(x+2)(x+2)(x-3)}$$

$$x \neq -2, 3 \quad \frac{5x+10 + 4x-12}{(x-3)(x+2)(x+2)}$$

$$\frac{9x-2}{(x-3)(x+2)(x+2)}$$

$$\textcircled{31} \frac{3 \cdot x}{4x \cdot x} - \frac{2 \cdot 4}{x^2 \cdot 4} = \frac{3x-8}{4x^2}$$

$x \neq 0$

May 22-8:20 AM

Name: _____ Date: _____ Unit 9 Class Work

Solving Rational Equations Class Work

Objective: You will be able to solve rational equations.

Guided Example A:

Solve $\frac{2m^2+m-3}{m^2-8m+7} = \frac{-3}{1}$

• Cross multiply
• Solve quadratic

$$2m^2+m-3 = -3m^2+24m-21$$

$$5m^2-23m+18=0 \quad m = \frac{23 \pm \sqrt{529-360}}{10} = \frac{23 \pm 8}{10} = \frac{31}{10} \text{ or } \frac{15}{10} = 1$$

Guided Example B:

Solve $\frac{4}{3y+9} - \frac{2y+2}{y^2-9} = \frac{-5}{3y+9}$

• Find common denominator

• Solve numerator

$$\frac{4(y-3) - 2(y+1)}{3(y+3)(y-3)} = \frac{-5(y+3)}{3(y-3)(y+3)}$$

$$4y-12 - (2y+2) = -5y-15$$

$$-2y-18 = -5y-15$$

$$3y = 3 \rightarrow y = 1$$

Practice: see next page

*Write any important hints/tips/reminders for solving rational equations!

Homework: pages 514-516 #1-21 odds only, 27, 29, 34, and 39 - 51 odd

Homework Solutions: