① $\frac{5}{x^2-3x-4} - \frac{3}{x^2-x-2}$

$(x-2)(x+1)(x-4)$

$\frac{5(x-2)-3(x-4)}{(x-2)(x-4)(x+1)} = \frac{5x-10-3x+12}{(x-2)(x-4)(x+1)}$

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

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② $\frac{\left(1-\frac{4}{x+1}\right)(x+1)(x-1)}{\left(1-\frac{2}{x-1}\right)(x+1)(x-1)}$

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

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

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③ $\frac{x^3+x^2-4x-4}{x^2-2x-15} \div \frac{x^2-4}{x^2+8x+15}$

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

$\frac{(x^2-4)(x+1)}{(x-5)(x+3)} \cdot \frac{(x+3)(x+5)}{(x^2-4)} =$

$\frac{(x+1)(x+5)}{(x-5)}$

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Daily Agenda

Learning Target: I can solve rational equations.

Homework

5.2 Worksheet

Assessments

5.1 to 5.2 Quiz 11/21

Unit 5 Test 12/1

Friendship...is not something you learn in school. But if you haven learned the mearning of friendship, you really haven't learned any

-Muhammad Ali

Nov 15-8:24 PM

5.2 Solving Rational Equations

-has a variable in the denominator

To Solve:

- Find domain – set den ≠ 0 and solve
- Clear fractions
- Solve
- Check for extraneous solutions

D: $x \neq 1$

$\left(x+\frac{2x}{x-1}=\frac{3-x}{x-1}\right)(x-1)$

$x(x-1)+2x = 3-x$

$x^2-x+2x = 3-x$

$+x \quad +x$

$x^2+2x = 3$

$x^2+2x-3=0$

$(x+3)(x-1)=0$

$x=-3, 1$

$x=-3$

1 is extraneous

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Solve for x.

$\left(\frac{3x}{x+4}+\frac{4x}{x-3}=\frac{84}{x^2+x-12}\right)(x+4)(x-3)$

$(x+4)(x-3)$

Domain: $x \neq -4, 3$

$3x(x-3)+4x(x+4) = 84$

$3x^2-9x+4x^2+16x = 84$

$7x^2+7x-84=0$

$7(x^2+x-12)=0$

$7(x+4)(x-3)=0$

$x=-4, 3$ are both extraneous

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