SUBJECT: math	Unit : 7	*Lesson 6 Solving Rational Equations and Inequalities*	TEACHER: Mrs. Amal

Objectives

- Solve rational equations in one variable.
- Solve rational inequalities in one variable.

Keywords

- rational equation.
- *rational inequality.*

Solve rational equations

Example 1 Solve a Rational Equation

Solve $\frac{5}{6} - \frac{2}{4x+1} = \frac{x}{3}$

Step 1) decide what's the LCD that will make the denominators the same

Multiply by LCD: .....

$$\ldots\ldots\ldots\ldots \frac{5}{6} - \ldots\ldots\ldots\ldots \frac{2}{4x+1} = \ldots\ldots\ldots\ldots \frac{x}{3}$$

Step 2) simplify

$$5(4x+1) - 6(2) = 2x(4x+1)$$

$$\ldots\ldots\ldots x + \ldots\ldots\ldots - \ldots\ldots\ldots = \ldots\ldots\ldots x^2 + 2x$$

$$20x - \ldots\ldots\ldots = \ldots\ldots\ldots x^2 + 2x$$

Step 3) solve for x (using quadratic formula)

Make it = 0 $0 = \ldots\ldots\ldots x^2 - \ldots\ldots\ldots x + \ldots\ldots\ldots$

$$x = \frac{\ldots\ldots\ldots \pm \sqrt{(\ldots\ldots\ldots)^2 - 4(\ldots\ldots\ldots)(\ldots\ldots\ldots)}}{2(\ldots\ldots\ldots)} = \ldots\ldots\ldots \; or \ldots\ldots\ldots$$

LIVEWORKSHEETS