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: .....

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

Step 2) simplify

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

$$\text{.....}\,x + \text{.....} - \text{.....} = \text{.....}x^2 + 2x$$

$$20x - \text{.....} = \text{.....}\,x^2 + 2x$$

Step 3) solve for x (using quadratic formula)

Make it = 0 $0 = \text{.....}x^2 - \text{.....}\,x + \text{.....}$

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