

Pre-Calculus 40S

Solving Rational Equations: Solve each rational equation algebraically and state the non-permissible values. Answers will be posted on the blog.

$$1. \frac{x+1}{2} = \frac{3x+7}{x}$$

$$x = -2 \quad x = 7$$

$$2. \frac{6}{x} - \frac{9}{x-1} = \frac{1}{4}$$

$$x = -3 \quad x = -8$$

$$3. \frac{2x}{x+3} + \frac{x}{x-3} = \frac{18}{x^2-9}$$

$$x = -2$$

$$4. \frac{3}{x^2-4} + \frac{3}{x+2} = 2$$

$$x = \frac{5}{2} \quad x = -1$$

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

$$x = -2$$

$$6. \frac{2x-3}{x-3} - 2 = \frac{12}{x+3}$$

$$x = 5$$

$$7. \frac{2x-5}{x-1} - 2 = \frac{3}{x+2}$$

$$x = -0.5$$

$$8. \frac{5x}{x+2} + \frac{2}{x} = 5$$

$$x = 0.5$$

$$9. \frac{x}{x+1} + \frac{5}{x-1} = 1$$

$$x = -1.5$$

$$10. \frac{x^2-4}{x^2-1} = \frac{x}{x+3}$$

$$x = \frac{1 \pm \sqrt{17}}{2} \quad \text{or} \quad x = -1.56, x = 2.56$$