

7.7

Solving Rational Equations Practice

Solve the following equations and check for extraneous solutions.

1. $\frac{x+3}{3} = \frac{8}{x-2}$

$$x = +5$$

$$x = -6$$

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

$$x = -1$$

3. $\frac{3}{6x} - \frac{9}{12} = \frac{11}{4x}$

$$x = -3$$

4. $\frac{18}{5x+10} + \frac{4}{5} = \frac{-6}{x+2}$

$$x = -14$$

5. $\frac{12}{x^2+5x+6} + \frac{7}{x+3} = \frac{2}{x+2}$

$$x = -4$$

6. $\frac{2}{x-6} + \frac{7}{x+2} = \frac{4x+2}{x^2-4x-12}$

$$x = 8$$

$$7. x + \frac{6}{x-3} = \frac{2x}{x-3}$$

$$x=2$$

$$8. \frac{22}{x^2+7x+12} = \frac{2}{x+4} + \frac{x}{x+3}$$

$$x=-8$$

$$x=2$$

$$9. \frac{x}{x-3} - \frac{5}{x+2} = \frac{25}{x^2-x-6}$$

$$x=5$$

$$10. \frac{-48}{x^2+8x-20} = \frac{4}{x+10} - \frac{x}{x-2}$$

$$x=4$$

Solve. Practice #2

$$1. \frac{x+2}{x+5} - \frac{1-x}{x^2+8x+15} = \frac{-7}{x+3}$$

$$x = -8$$

$$2. \frac{2x^2-9}{x+2} - \frac{7x-1}{x+2} = \frac{2-6x}{x+2}$$

$$x = \frac{5}{2}$$

$$3. \frac{6}{x-3} = \frac{8}{x+4}$$

$$x = -24$$

$$4. \frac{3x+53}{x^2+6x-7} + \frac{4}{x+7} = \frac{x+3}{x-1}$$

$$x = 4$$

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

$$x = 8$$

$$6. \frac{3x+35}{x^2+3x-54} = \frac{x+1}{x-6} - \frac{2}{x+9}$$

$$x = -7$$

$$x = 2$$

$$7. \frac{x^2-4x-12}{x^2-10x+25} = \frac{6}{x-5} + \frac{x-3}{x-5}$$

$$x = \frac{3}{2}$$

$$8. \frac{x+4}{4} + \frac{x-1}{4} = \frac{x+4}{4x}$$

$$x = -2$$

$$x = 1$$

$$9. \frac{x-15}{5x+20} = \frac{3x}{5} - \frac{1}{x+4}$$

$$x = -\frac{5}{3} \quad x = -2$$

$$10. \frac{-2}{3x+5} = \frac{2}{5-4x}$$

$$x = 10$$