

Algebra 2
Rational Equations and Inequalities

Solve the following and state the excluded values of the variable.

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

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

3. $\frac{4}{x^2-3x} = \frac{1}{x^2-9}$

4. $\frac{-2}{x+5} + \frac{3}{x-5} = \frac{20}{x^2-25}$

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

6. $\frac{10}{x+1} > 5$

7. $\frac{4}{x+2} > 1$

8. $\frac{1}{3x} + \frac{1}{4x} < \frac{1}{2}$

9. $7 - \frac{2}{x} < \frac{5}{x}$

10. $\frac{x+3}{x-2} < 0$