Solving Rational Equations

Step 1: Factor all denominators and find restrictions.
Step 2: Find the least common denominator (LCD).
Step 3: Multiply each fraction by what is missing in the LCD.
Step 4: Cancel all denominators.
Step 5: Solve for the variable and check your answer.

Directions: Find all solutions of each rational equation.

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

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

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

4. $\frac{3(x-6)}{5}=\frac{4(x+2)}{3}$

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

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

7. $\frac{3y-2}{y+1}=4-\frac{y+2}{y-1}$

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