Name _____ Date _____

Mr. Schlansky Algebra II

Fractional Equations with Factoring

Solve the following fractional equations and list the solutions as well as the extraneous solutions

1. $\frac{1}{x-2}+\frac{4}{x+5}=\frac{7}{x^2+3x-10}$

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

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

4. $\frac{a}{a-2}-\frac{8}{a+3}=\frac{10}{a^2+a-6}$

5. $\frac{1}{y}+\frac{6}{y^2+2y}=\frac{5}{y+2}$

6. $\frac{8}{x^2-121}=\frac{x}{x+11}-\frac{2}{x-11}$

7. $\frac{1}{x-2}+\frac{x+2}{x+5}=\frac{3}{x^2+3x-10}$

8. $\frac{x+1}{x+5}+\frac{18}{x^2+8x+15}=\frac{9}{x+3}$

9. $\frac{2}{x+3}-\frac{3}{4-x}=\frac{2x-2}{x^2-x-12}$

10. $\frac{1}{x+3}-\frac{4}{3-x}=\frac{14}{x^2-9}$

11. Solve for x in simplest radical form: $\frac{6}{x}+\frac{x}{x-7}=\frac{12}{x^2-7x}$

12. Solve for x in simplest radical form: $\frac{x}{x-5}-\frac{4}{x}=\frac{28}{x^2-5x}$

13. Which of the following is true based on the equation $\frac{x}{x+3}+\frac{2}{x+1}=\frac{6}{x^2+4x+3}$?

1) -3 is an extraneous solution
2) -1 is an extraneous solution
3) -3 and -1 are extraneous solutions
4) -3 and 0 are extraneous solutions

14. To solve $\frac{2x}{x-2}-\frac{11}{x}=\frac{8}{x^2-2x}$, Ren multiplied both sides by the least common denominator. Which statement is true?

1) 2 is an extraneous solution.
2) $\frac{7}{2}$ is an extraneous solution.
3) 0 and 2 are extraneous solutions.
4) This equation does not contain any extraneous solutions.