Students will be able to:

- Solve Advance Quadratic Equations with Rational Expressions (Fractions)

Functions and symbols that WeBWorK understands.

Links to some useful WeBWorK pages for students

1. (1 pt) Solve the following equation.

\[ 1 + \frac{3x}{(x+1)(x+3)} = \frac{1}{x+1} + \frac{4}{x+3} \]

Answer: ______________

Note: If there is more than one answer, write them separated by commas (e.g., 1, 2).

2. (1 pt) Solve for \( x \): \[ \frac{1}{x^2+2} + \frac{1}{x^2} = \frac{1}{x+10} \]

Please enter the smaller answer first.

3. (1 pt) Solve the equation for \( t \)

\[ \frac{8}{2-t} + \frac{2}{2+t} + \frac{4}{4-t^2} = 0 \]

\( t = \) ______________

4. (1 pt) Solve the equation

\[ \frac{x+1}{x-1} = -4 + \frac{8}{x^2+2x-3} \]

Hint: There is only one non-extraneous root.

\( x = \) ______________

5. (1 pt) Solve the equation

\[ \frac{1}{x+3} - \frac{1}{x+4} = \frac{1}{2} \]

The solutions are \( x_1 = \) ________ and \( x_2 = \) ________ where \( x_1 \leq x_2 \).