Honors Pre Calculus Section 2.7: Solving Rational Equations

Homework: Section 2.7

Solve the following equations. Identify any extraneous solutions.

1. $x+5=\frac{14}{x}$

$x=-7$
$x=2$

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

$x=\frac{13\pm\sqrt{105}}{16}$

3. $x+\frac{12}{x}=7$

$x=3$
$x=4$

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

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

5. $\frac{x-3}{x}-\frac{3}{x+1}+\frac{3}{x^2+x}=0$

$x=5$

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

$x=-1$

7. $\dfrac{x^2-6x+5}{x^2-2}=3$

$x=\dfrac{-3\pm\sqrt{31}}{2}$

8. $\dfrac{4x}{x+4}+\dfrac{5}{x-1}=\dfrac{15}{x^2+3x-4}$

$x=\dfrac{-1\pm i\sqrt{79}}{8}$

9. $x^2-\dfrac{3}{x}=7$

$x\approx -2.4$

$x\approx -0.44$

$x\approx 2.84$