

Solving Rational Equations

Solve each equation. Remember to check for extraneous solutions.

1) $\frac{1}{x} = \frac{x+6}{x^2} - \frac{x-2}{x^2}$

2) $\frac{1}{2m} - \frac{1}{m^2} = \frac{5}{m^2}$

3) $\frac{1}{3v^2} = \frac{5}{6v} - \frac{1}{6v^2}$

4) $\frac{2}{a} + \frac{1}{a^2} = \frac{5}{a^2}$

5) $\frac{1}{2} = \frac{1}{3m+1} - \frac{m-4}{3m+1}$

6) $\frac{1}{r^2+r-6} + \frac{1}{r+3} = \frac{6}{r^2+r-6}$

7) $\frac{5}{n-1} = 5 + \frac{1}{n-1}$

8) $\frac{3x+12}{x^2-6x+8} = \frac{1}{x^2-6x+8} - \frac{1}{x-4}$

9) $\frac{3x-6}{x-6} = \frac{3x}{x-6} + \frac{5}{x^2-6x}$

10) $\frac{3}{4m^2+2m} = \frac{m+3}{4m+2} - \frac{1}{4m^2+2m}$

11) $\frac{5}{a^2+5a} = \frac{1}{a^2+5a} - 1$

12) $\frac{n-2}{n-1} + \frac{4}{n^2-6n+5} = \frac{1}{n-5}$

13) $\frac{1}{n-4} + \frac{2}{n^2-4n} = \frac{6n+12}{n}$

14) $\frac{b^2-4}{b^2+b} = \frac{b+3}{b^2+b} + \frac{b-4}{b+1}$

Answers to Solving Rational Equations (ID: 1)

1) $\{8\}$

2) $\{12\}$

3) $\left\{\frac{3}{5}\right\}$

4) $\{2\}$

5) $\left\{\frac{9}{5}\right\}$

6) $\{7\}$

7) $\left\{\frac{9}{5}\right\}$

8) $\left\{-\frac{9}{4}\right\}$

9) $\left\{-\frac{5}{6}\right\}$

10) $\{1, -4\}$

11) $\{-4, -1\}$

12) $\{3\}$

13) $\left\{\frac{25}{6}, -2\right\}$

14) $\left\{\frac{7}{3}\right\}$