

## Solving Rational Equations

Date \_\_\_\_\_ Period \_\_\_\_\_

**Solve each equation. Remember to check for extraneous solutions.**

1)  $\frac{1}{k} + \frac{1}{5} = \frac{1}{5k}$

2)  $\frac{1}{3} = \frac{2x+10}{3x} - \frac{6}{x}$

3)  $1 - \frac{6n-6}{5n} = \frac{n+5}{5n}$

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

5)  $\frac{2b-10}{b^2-4b} = \frac{6}{b^2-4b} + \frac{b-3}{3b^2-12b}$

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

7)  $\frac{1}{a-1} + \frac{2a+2}{a-1} = 6$

8)  $\frac{1}{5k^2+3k} + \frac{1}{5k+3} = \frac{2}{5k^2+3k}$

9)  $\frac{6}{x^2} = \frac{1}{2x} + \frac{1}{4}$

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

11)  $\frac{1}{2x^2} = \frac{x-1}{4x} + \frac{x^2-5x+4}{2x^2}$

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

13)  $\frac{m+5}{m^2+m} + \frac{m-1}{m} = \frac{6}{m^2+m}$

14)  $\frac{n-4}{n-3} = \frac{1}{2n-6} + \frac{3}{n}$

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Date \_\_\_\_\_ Period \_\_\_\_\_

**Solve each equation. Remember to check for extraneous solutions.**

1)  $\frac{1}{k} + \frac{1}{5} = \frac{1}{5k}$

 $\{-4\}$ 

2)  $\frac{1}{3} = \frac{2x+10}{3x} - \frac{6}{x}$

 $\{8\}$ 

3)  $1 - \frac{6n-6}{5n} = \frac{n+5}{5n}$

 $\left\{\frac{1}{2}\right\}$ 

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

 $\{-5\}$ 

5)  $\frac{2b-10}{b^2-4b} = \frac{6}{b^2-4b} + \frac{b-3}{3b^2-12b}$

 $\{9\}$ 

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

 $\{-3\}$ 

7)  $\frac{1}{a-1} + \frac{2a+2}{a-1} = 6$

 $\left\{\frac{9}{4}\right\}$ 

8)  $\frac{1}{5k^2+3k} + \frac{1}{5k+3} = \frac{2}{5k^2+3k}$

 $\{1\}$ 

9)  $\frac{6}{x^2} = \frac{1}{2x} + \frac{1}{4}$

 $\{4, -6\}$ 

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

 $\{1, -1\}$ 

11)  $\frac{1}{2x^2} = \frac{x-1}{4x} + \frac{x^2-5x+4}{2x^2}$

 $\left\{3, \frac{2}{3}\right\}$ 

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

 $\left\{1, -\frac{1}{2}\right\}$ 

13)  $\frac{m+5}{m^2+m} + \frac{m-1}{m} = \frac{6}{m^2+m}$

 $\{1, -2\}$ 

14)  $\frac{n-4}{n-3} = \frac{1}{2n-6} + \frac{3}{n}$

 $\left\{6, \frac{3}{2}\right\}$