

Solving Rational Equations 2

Solve each equation. Remember to check for extraneous solutions.

1)
$$\frac{k+4}{4} + \frac{k-1}{4} = \frac{k+4}{4k}$$

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

3)
$$\frac{n^2 - n - 6}{n^2} - \frac{2n + 12}{n} = \frac{n - 6}{2n}$$

4)
$$\frac{3x^2 + 24x + 48}{x^2} + \frac{x - 6}{2x^2} = \frac{1}{x^2}$$

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

6)
$$\frac{k}{3} - \frac{1}{3k} = \frac{1}{k}$$

7)
$$\frac{x-4}{6x} + \frac{x^2-3x-10}{6x} = \frac{x-1}{6}$$

8)
$$\frac{1}{x^2} = \frac{x-1}{x} + \frac{1}{x}$$

$$9) \frac{1}{r+3} = \frac{r+4}{r-2} + \frac{6}{r-2}$$

$$10) \frac{2x+2}{3x-12} - \frac{4x^2-16}{3x^2-24x+48} = \frac{5x-5}{3x^2-24x+48}$$

$$11) \frac{1}{n+3} + \frac{n^2+6n+5}{n+3} = n-3$$

$$12) \frac{1}{2} = \frac{x^2-7x+10}{4x} - \frac{1}{2x}$$

$$13) \frac{1}{k} = 5 + \frac{1}{k^2+k}$$

$$14) \frac{1}{p^2-4p} + 1 = \frac{p-6}{p}$$

$$15) \frac{5}{n} - \frac{6}{n^3-2n^2} = \frac{n^2+5n-6}{n^3-2n^2}$$

$$16) \frac{x+2}{x} = \frac{x-1}{x} - \frac{4x+2}{x^2-3x}$$

Solving Rational Equations 2

Solve each equation. Remember to check for extraneous solutions.

1) $\frac{k+4}{4} + \frac{k-1}{4} = \frac{k+4}{4k}$

 $\{-2, 1\}$

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

 $\{1\}$

3) $\frac{n^2 - n - 6}{n^2} - \frac{2n + 12}{n} = \frac{n - 6}{2n}$

 $\{-\frac{2}{3}, -6\}$

4) $\frac{3x^2 + 24x + 48}{x^2} + \frac{x - 6}{2x^2} = \frac{1}{x^2}$

 $\{-\frac{8}{3}, -\frac{11}{2}\}$

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

 $\{-2, 4\}$

6) $\frac{k}{3} - \frac{1}{3k} = \frac{1}{k}$

 $\{-2, 2\}$

7) $\frac{x-4}{6x} + \frac{x^2-3x-10}{6x} = \frac{x-1}{6}$

 $\{-14\}$

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

 $\{1, -1\}$

$$9) \frac{1}{r+3} = \frac{r+4}{r-2} + \frac{6}{r-2}$$

$$\{-8, -4\}$$

$$10) \frac{2x+2}{3x-12} - \frac{4x^2-16}{3x^2-24x+48} = \frac{5x-5}{3x^2-24x+48}$$

$$\left\{1, -\frac{13}{2}\right\}$$

$$11) \frac{1}{n+3} + \frac{n^2+6n+5}{n+3} = n-3$$

$$\left\{-\frac{5}{2}\right\}$$

$$12) \frac{1}{2} = \frac{x^2-7x+10}{4x} - \frac{1}{2x}$$

$$\{1, 8\}$$

$$13) \frac{1}{k} = 5 + \frac{1}{k^2+k}$$

$$\left\{-\frac{4}{5}\right\}$$

$$14) \frac{1}{p^2-4p} + 1 = \frac{p-6}{p}$$

$$\left\{\frac{23}{6}\right\}$$

$$15) \frac{5}{n} - \frac{6}{n^3-2n^2} = \frac{n^2+5n-6}{n^3-2n^2}$$

$$\left\{\frac{15}{4}\right\}$$

$$16) \frac{x+2}{x} = \frac{x-1}{x} - \frac{4x+2}{x^2-3x}$$

$$\{1\}$$