

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

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

$$10) \frac{a^2 - 4a - 12}{a^2 - 10a + 25} = \frac{6}{a-5} + \frac{a-3}{a-5}$$

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

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

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

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

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

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

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

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

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

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

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

 $\{1, -1\}$

$$9) \frac{1}{r+3} = \frac{r+4}{r-2} + \frac{6}{r-2}$$
$$\{-8, -4\}$$

$$10) \frac{a^2 - 4a - 12}{a^2 - 10a + 25} = \frac{6}{a-5} + \frac{a-3}{a-5}$$
$$\left\{\frac{3}{2}\right\}$$

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

$$12) \frac{1}{2} = \frac{x^2 - 7x + 10}{4x} - \frac{1}{2x}$$
$$\{1, 8\}$$

$$13) \frac{1}{k} = 5 + \frac{1}{k^2 + k}$$
$$\left\{-\frac{4}{5}\right\}$$

$$14) \frac{1}{p^2 - 4p} + 1 = \frac{p-6}{p}$$
$$\left\{\frac{23}{6}\right\}$$

$$15) \frac{5}{n} - \frac{6}{n^3 - 2n^2} = \frac{n^2 + 5n - 6}{n^3 - 2n^2}$$
$$\left\{\frac{15}{4}\right\}$$

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