

Rational Equations

Solve each equation. Remember to check for extraneous solutions.

1) $\frac{1}{4x} - \frac{1}{4} = \frac{1}{2}$

2) $\frac{5v-5}{v} - \frac{5v+15}{v} = 1$

3) $\frac{5a+20}{6a} + \frac{1}{a} = \frac{3}{2a}$

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

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

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

7) $\frac{5}{k} = \frac{1}{k} - 1$

8) $\frac{5}{b} = \frac{1}{b} + 4$

$$9) \frac{4}{n+1} - \frac{1}{n^2+7n+6} = \frac{3}{n^2+7n+6}$$

$$10) \frac{1}{r-1} + 4 = \frac{2}{r-1}$$

$$11) \frac{3v^2+21v+18}{v^2+2v} = \frac{1}{v} - \frac{1}{v^2+2v}$$

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

$$13) \frac{b+1}{b^2-2b} + \frac{6b^2-24b+18}{b^2-2b} = \frac{2b-4}{b}$$

$$14) \frac{5}{b^2+b} = \frac{b+4}{b} + \frac{1}{b^2+b}$$

$$15) \frac{1}{n^2+11n+30} = \frac{1}{n+5} - 4$$

$$16) \frac{n}{n+5} = \frac{n+4}{2n+10} + \frac{n^2+6n+8}{2n^2+10n}$$

Rational Equations

Solve each equation. Remember to check for extraneous solutions.

1) $\frac{1}{4x} - \frac{1}{4} = \frac{1}{2}$

$$\left\{ \frac{1}{3} \right\}$$

2) $\frac{5v-5}{v} - \frac{5v+15}{v} = 1$

$$\{-20\}$$

3) $\frac{5a+20}{6a} + \frac{1}{a} = \frac{3}{2a}$

$$\left\{ -\frac{17}{5} \right\}$$

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

$$\{1\}$$

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

$$\{3\}$$

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

$$\{-2\}$$

7) $\frac{5}{k} = \frac{1}{k} - 1$

$$\{-4\}$$

8) $\frac{5}{b} = \frac{1}{b} + 4$

$$\{1\}$$

$$9) \frac{4}{n+1} - \frac{1}{n^2+7n+6} = \frac{3}{n^2+7n+6}$$

$$\{-5\}$$

$$10) \frac{1}{r-1} + 4 = \frac{2}{r-1}$$

$$\left\{ \begin{array}{l} 5 \\ 4 \end{array} \right\}$$

$$11) \frac{3v^2+21v+18}{v^2+2v} = \frac{1}{v} - \frac{1}{v^2+2v}$$

$$\left\{ -1, -\frac{17}{3} \right\}$$

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

$$\{3\}$$

$$13) \frac{b+1}{b^2-2b} + \frac{6b^2-24b+18}{b^2-2b} = \frac{2b-4}{b}$$

$$\left\{ 1, \frac{11}{4} \right\}$$

$$14) \frac{5}{b^2+b} = \frac{b+4}{b} + \frac{1}{b^2+b}$$

$$\{-5\}$$

$$15) \frac{1}{n^2+11n+30} = \frac{1}{n+5} - 4$$

$$\left\{ -\frac{23}{4} \right\}$$

$$16) \frac{n}{n+5} = \frac{n+4}{2n+10} + \frac{n^2+6n+8}{2n^2+10n}$$

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