

Practice - solving rationals equations

Date _____ Period _____

Solve each equation. Remember to check for extraneous solutions.

1) $\frac{1}{2x} = \frac{3}{x} - \frac{x-5}{x}$

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

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

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

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

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

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

8) $\frac{2x+6}{7x} = \frac{3}{7x} + 1$

9) $\frac{1}{4m^2-24m} = \frac{1}{4m} - \frac{3}{m^2-6m}$

10) $\frac{1}{2p} - \frac{p-3}{p^2+8p} = \frac{3p-12}{p^2+8p}$

$$11) \frac{1}{4x^2 + 24x + 36} + \frac{1}{4x + 12} = \frac{5}{4x + 12}$$

$$12) \frac{m - 6}{m^2 - 2m} + \frac{1}{m - 2} = \frac{1}{m}$$

$$13) \frac{n^2 - 4}{4n^2 - 28n + 24} = \frac{1}{n^2 - 7n + 6} + \frac{n^2 - 7n + 12}{4n^2 - 28n + 24}$$

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

$$15) \frac{1}{k^2 - 4k} - 1 = \frac{6k + 2}{k^2 - 4k}$$

$$16) 1 + \frac{x^2 + 12x + 32}{12x} = \frac{x^2 + 3x - 28}{12x}$$

$$17) \frac{8v^2 - 12v + 4}{v^2 - 8v} = \frac{9v + 6}{v} - \frac{v + 4}{v^2 - 8v}$$

$$18) \frac{1}{5r} + \frac{r^2 - 11r + 24}{5r} = r + 2$$

Answers to Practice - solving rationals equations

1) $\left\{\frac{15}{2}\right\}$

5) $\{1\}$

9) $\{19\}$

13) $\left\{\frac{20}{7}\right\}$

17) $\{56, -1\}$

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

6) $\{-1\}$

10) $\left\{\frac{38}{7}\right\}$

14) $\{3\}$

18) $\left\{1, -\frac{25}{4}\right\}$

3) $\left\{-\frac{4}{3}\right\}$

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

11) $\left\{-\frac{11}{4}\right\}$

15) $\{-1\}$

4) $\left\{\frac{3}{2}\right\}$

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

12) $\{4\}$

16) $\left\{-\frac{20}{7}\right\}$