

Solving Rational Equations

Date _____ Period _____

Solve each equation. Remember to check for extraneous solutions.

1) $\frac{1}{a} + \frac{1}{2a^2} = \frac{2}{a^2}$

2) $\frac{1}{x} - \frac{x-6}{x} = \frac{4}{5x}$

3) $\frac{5}{2v} = \frac{v-4}{v} + \frac{2}{v}$

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

5) $\frac{5}{n-2} = \frac{6}{n-2} - 1$

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

7) $\frac{6}{k^2-2k} + \frac{5}{k-2} = \frac{k-5}{k^2-2k}$

8) $\frac{2}{3p} - \frac{1}{3p^2-15p} = \frac{1}{p^2-5p}$

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

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

$$11) \frac{6}{m^2} + \frac{1}{5m} = \frac{2m-10}{5m}$$

$$12) \frac{n-3}{3n^2} + \frac{1}{3} = \frac{1}{n^2}$$

$$13) \frac{n^2-2n-24}{n^3-4n^2} - \frac{1}{n} = \frac{1}{n^3-4n^2}$$

$$14) \frac{v+3}{v-3} + \frac{v^2-4v-5}{v-3} = v+1$$

$$15) \frac{b+6}{b^2} = \frac{b-6}{3b^3+3b^2} - \frac{1}{3b^3+3b^2}$$

$$16) \frac{1}{3x^2+9x} - \frac{x}{3x+9} = \frac{x-3}{x^2+3x}$$

Solve each question. Round your answer to the nearest hundredth.

17) Pranav can clean an attic in 12 hours. Julia can clean the same attic in 14 hours. Find how long it would take them if they worked together.

18) It takes Matt eight hours to dig a 10 ft by 10 ft hole. Jessica can dig the same hole in ten hours. Find how long it would take them if they worked together.

19) Working alone, Paul can mop a warehouse in 10 hours. Scott can mop the same warehouse in 12 hours. How long would it take them if they worked together?

20) Working alone, it takes Ted eight hours to mop a warehouse. Kathryn can mop the same warehouse in 11 hours. Find how long it would take them if they worked together.