

Solve each equation. Remember to check for extraneous solutions.

1) $\frac{1}{v^2} = \frac{3v-12}{4v^2} + \frac{1}{4v^2}$

 $\{5\}$

2) $\frac{1}{2x} + \frac{x+1}{4x^2} = \frac{x+2}{4x^2} \left\{ \frac{1}{2} \right\}$

3) $\frac{1}{3k^2} = \frac{2}{k^2} - \frac{k+5}{k^2} \left\{ -\frac{10}{3} \right\}$

4) $\frac{1}{n} + \frac{1}{5n^2} = \frac{2}{5n^2} \left\{ \frac{1}{5} \right\}$

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

 $\{-2\}$

6) $\frac{n-3}{n^2} + \frac{1}{5n^2} = \frac{n+5}{5n^2} \left\{ \frac{19}{4} \right\}$

7) $\frac{2}{b^2} = \frac{1}{b} + \frac{1}{b^2}$

 $\{1\}$

8) $\frac{1}{5b^2} = \frac{1}{b^2} - \frac{b-5}{b^2} \left\{ \frac{29}{5} \right\}$

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

 $\{30\}$

10) $\frac{1}{2} - \frac{1}{6a} = \frac{1}{a} \left\{ \frac{7}{3} \right\}$

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

 $\{-5\}$

12) $\frac{8}{3m^2} + \frac{m-5}{m^2} = \frac{1}{m^2} \left\{ \frac{10}{3} \right\}$

13) $\frac{1}{3} = \frac{2}{3} + \frac{3}{n}$

 $\{-9\}$

14) $\frac{1}{4n} + \frac{5n-35}{4n} = 3 \left\{ -\frac{34}{7} \right\}$

15) $\frac{r+3}{8r^2} = \frac{1}{8r^2} - \frac{1}{8r}$

 $\{-1\}$

16) $\frac{x+5}{x^2} + \frac{6}{5x} = \frac{1}{5x} \left\{ -\frac{5}{2} \right\}$

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

 $\{7\}$

18) $\frac{3}{4b} - \frac{2}{b} = \frac{b+2}{4b^2} \left\{ -\frac{1}{3} \right\}$

19) $1 = \frac{5}{6b} + \frac{1}{6}$

 $\{1\}$

20) $\frac{r+2}{8r} = \frac{1}{8r} + 1 \left\{ \frac{1}{7} \right\}$