Pre-Calculus Name_____

# Solve Rational Equations

Date_____



**Solve each equation. Remember to check for extraneous solutions.**

1) $\frac{b-1}{b} = \frac{1}{5} - \frac{3}{b}$

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

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

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

5) $\frac{5r-5}{3r^2} = \frac{3}{r^2} - \frac{r+3}{3r^2}$

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

7) $1 + \frac{1}{5r} = \frac{1}{r}$

8) $\frac{4}{5m^2+6m} = \frac{1}{5m^2+6m} + \frac{1}{5m+6}$

9) $\frac{x+2}{x^2-9x+18} - \frac{3}{x^2-9x+18} = \frac{6}{x-3}$

10) $\frac{x-4}{2x^2-x} = \frac{1}{3x} + \frac{1}{12x^2-6x}$

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

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

13) $\frac{5}{m-4} + \frac{1}{m^2-10m+24} = \frac{6}{m^2-10m+24}$

14) $\frac{1}{3m+18} + \frac{2m-2}{m+6} = \frac{1}{m+6}$

# Answers to Solve Rational Equations

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

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

3) $\{3\}$

4) $\{4\}$

5) $\left\{\frac{11}{6}\right\}$

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

7) $\left\{\frac{4}{5}\right\}$

8) $\{3\}$

9) $\{7\}$

10) $\left\{\frac{23}{2}\right\}$

11) $\left\{\frac{1}{6}\right\}$

12) $\{3\}$

13) $\{7\}$

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