

4.5 Solving Rational Equations

Date _____

Solve each equation. Remember to check for extraneous solutions.

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

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

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

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

5) $\frac{1}{n} = \frac{5}{n} - \frac{1}{n+1}$

6) $\frac{4}{x^2 - 3x - 18} = \frac{3}{x+3} + \frac{1}{x^2 - 3x - 18}$

$$7) \frac{1}{5b-6} - \frac{6}{5b^2-6b} = \frac{3b+2}{5b^2-6b}$$

$$8) \frac{4}{n^2-6n} + \frac{2}{n} = \frac{n+1}{2n^2-12n}$$

$$9) \frac{5}{x+1} - \frac{1}{x^2-3x-4} = \frac{1}{x-4}$$

$$10) \frac{4}{r^2+9r+18} - \frac{6}{r+6} = \frac{6}{r+3}$$

Answers to 4.5 Solving Rational Equations

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

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

9) $\left\{\frac{11}{2}\right\}$

2) $\left\{-\frac{1}{4}\right\}$

6) $\{7\}$

10) $\left\{-\frac{25}{6}\right\}$

3) $\{3\}$

7) $\{-4\}$

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

8) $\left\{\frac{17}{3}\right\}$