

## 4.3 Solving Rational Equations

Solve each equation. Remember to check for extraneous solutions.

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

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

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

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

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

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

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

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

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

10)  $\frac{x+2}{4x^2} = \frac{1}{4x^2} - \frac{2x+8}{x^2}$

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

12)  $\frac{1}{x} + \frac{1}{4} = \frac{1}{4x}$

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

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

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

16)  $\frac{4a-4}{3a} = \frac{2}{3a} + \frac{a-3}{3}$