Precalc Name_____



# Rational equations practice (A2 5.5)

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

1) $\frac{8}{5n^2 - 5n} = \frac{1}{5n - 5} + \frac{1}{5n^2 - 5n}$

2) $\frac{1}{x^2 - 13x + 30} = \frac{7}{x - 3} + \frac{2}{x^2 - 13x + 30}$

3) $\frac{5}{n - 2} = \frac{1}{n - 2} + \frac{10}{n^2 - 2n}$

4) $1 = \frac{1}{b + 9} + \frac{2b + 2}{b + 9}$

5) $\frac{9}{x^2 - 3x} = \frac{1}{x} + \frac{8}{x^2 - 3x}$

6) $\frac{v - 5}{v + 10} = \frac{9}{2v + 20} + \frac{v + 8}{2v + 20}$

7) $\frac{6v + 3}{v^2 + 8v} + \frac{1}{v} = \frac{10}{v}$

8) $1 = \frac{1}{2v} - \frac{v - 2}{2v}$

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

10) $\frac{3x + 15}{x^2 - x} + \frac{x^2 + 13x + 40}{x^2 - x} = 7$

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

12) $\frac{8}{x + 6} = 8x + 24 - \frac{x - 5}{x + 6}$

# Answers to Rational equations practice (A2 5.5)

1) $\{7\}$

2) $\left\{\frac{69}{7}\right\}$

3) $\left\{\frac{5}{2}\right\}$

4) $\{6\}$

5) $\{4\}$

6) $\{27\}$

7) $\{-23\}$

8) $\{1\}$

9) $\left\{2, -\frac{2}{3}\right\}$

10) $\left\{\frac{11}{2}, -\frac{5}{3}\right\}$

11) $\{3, -2\}$

12) $\left\{-3, -\frac{47}{8}\right\}$