Name_____

Assignment

Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

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

2) $\frac{20n^2 + 27n + 9}{3n^2 + 4n} - \frac{1}{3n^2 + 4n} = \frac{1}{3n + 4}$

3) $\frac{8r + 8}{r} - \frac{1}{r^2 + 7r} = \frac{r + 2}{r + 7}$

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

5) $1 - \frac{1}{n^2 + 5n + 6} = \frac{1}{2}$

6) $\frac{b + 4}{b^2 - 13b + 42} + \frac{b + 3}{b - 6} = \frac{b + 7}{b - 7}$

7) $\frac{m - 7}{5m + 6} - \frac{5m + 25}{5m^2 + 6m} = \frac{m^2 - 9}{5m^2 + 6m}$

8) $\frac{1}{p^2} - \frac{1}{p} = \frac{5p^2 + 15p - 20}{p^2}$

9) $1 = \frac{x^2 + 5x - 6}{x^2 - 2x} - \frac{x - 8}{x^2 - 2x}$

10) $\frac{r - 7}{r} = \frac{r + 5}{r^2 - r} + 1$

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

12) $\frac{4}{n} = n - 3 - \frac{6}{n}$

13) $\frac{a^2 - 4a - 21}{a^2 - 2a} - \frac{a^2 - 9a + 18}{a^2 - 2a} = \frac{1}{a}$

14) $1 - \frac{n - 8}{n - 3} = \frac{5}{n^2 - 3n}$

15) $2 = \frac{1}{4} - \frac{2v^2 - 18}{v^2 + v - 56}$

16) $\frac{x^2 - 9x + 8}{x - 7} - \frac{6}{x - 7} = x$

17) $\frac{4}{x} + \frac{x^2 + 14x + 48}{x^2 + 2x} = 1$

18) $3 = \frac{k + 8}{k} + \frac{8k - 32}{k^2 + 3k}$

19) $1 - \frac{x + 4}{3x^2} = \frac{x - 2}{x}$

20) $\frac{3}{m} = \frac{m^2 - 6m - 7}{m^2 - 2m} + \frac{1}{m^2 - 2m}$

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

22) $\frac{6n + 12}{n^2 + 5n} - 1 = \frac{7n^2 - 56n + 112}{n^2 + 5n}$

23) $\frac{r-5}{r-7} = \frac{1}{r} + \frac{7}{r^2 - 7r}$

24) $1 = \frac{1}{x-3} + \frac{5}{x+5}$

Answers to Assignment (ID: 1)

1) $\left\{-\frac{20}{3}\right\}$

2) $\left\{-\frac{4}{5}, -\frac{1}{2}\right\}$

3) $\left\{-\frac{55}{7}, -1\right\}$

4) $\left\{\frac{10}{3}, 2\right\}$

5) $\{-1, -4\}$

6) $\left\{\frac{25}{4}\right\}$

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

8) $\left\{-\frac{21}{5}, 1\right\}$

9) $\left\{-\frac{1}{3}\right\}$

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

11) $\{1\}$

12) $\{5, -2\}$

13) $\left\{\frac{37}{4}\right\}$

14) $\{1\}$

15) $\left\{-\frac{29}{5}, \frac{16}{3}\right\}$

16) $\{1\}$

17) $\left\{-\frac{7}{2}\right\}$

18) $\{1, 4\}$

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

20) $\{9\}$

21) $\{2, -2\}$

22) $\left\{\frac{25}{8}, 4\right\}$

23) $\{6\}$

24) $\{-1, 5\}$

Name_____

Assignment

Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

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

2) $\frac{x-8}{x} + \frac{4}{x} = \frac{x^2-3x-40}{x^2}$

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

4) $\frac{n-8}{n^2+7n} = \frac{3}{n^2+7n} + \frac{n-3}{n}$

5) $\frac{a}{a-4} - \frac{1}{a} = \frac{3}{a-4}$

6) $\frac{3}{p^3-4p^2} = \frac{3p-5}{p^2-4p} + \frac{1}{p^3-4p^2}$

7) $\frac{1}{x-7} + \frac{2x}{x-5} = \frac{2}{x^2-12x+35}$

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

9) $\frac{1}{n-7} + \frac{n^2-10n+24}{n-7} = n+7$

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

11) $\frac{1}{k^2-4k} = 1 + \frac{5}{k^2-4k}$

12) $1 + \frac{1}{x^2+8x} = \frac{x-5}{x^2+8x}$

13) $\frac{8}{v+4} = \frac{v^2-7v+12}{v^2+4v} + \frac{2}{v^2+4v}$

14) $\frac{1}{x} - \frac{1}{x^3-6x^2} = \frac{x-7}{x^3-6x^2}$

15) $\frac{r^2+4r-21}{r^2-4r-12} = \frac{r+8}{r+2} + \frac{1}{r^2-4r-12}$

16) $1 + \frac{1}{n^2+6n} = \frac{n-5}{n}$

17) $\frac{a^2-36}{a+1} + 1 = \frac{a^2-3a}{a+1}$

18) $\frac{v^2-6v-7}{v^2-5v} - \frac{8}{v^2-5v} = 1$

19) $\frac{1}{b^2+3b} + \frac{4b^2+25b+6}{b^3+4b^2+3b} = \frac{4}{b+1}$

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

21) $\frac{7}{k^2-5k} - 1 = \frac{1}{k^2-5k}$

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

23) $\frac{n+7}{n^3-2n^2} = \frac{n+8}{n^2-2n} - \frac{1}{n^3-2n^2}$

24) $\frac{n+1}{n} - \frac{n-6}{n} = \frac{3n-7}{n^2-4n}$

Answers to Assignment (ID: 2)

1) $\{2\}$

2) $\{40\}$

3) $\left\{-\frac{9}{5}\right\}$

4) $\{-5, 2\}$

5) $\{2\}$

6) $\left\{2, -\frac{1}{3}\right\}$

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

8) $\{2\}$

9) $\left\{\frac{37}{5}\right\}$

10) $\left\{-\frac{1}{2}, 2\right\}$

11) $\{2\}$

12) $\{-1, -6\}$

13) $\{1, 14\}$

14) $\{1\}$

15) $\{-13\}$

16) $\left\{-\frac{31}{5}\right\}$

17) $\left\{\frac{35}{4}\right\}$

18) $\{-15\}$

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

20) $\{3, -1\}$

21) $\{6, -1\}$

22) $\{-2\}$

23) $\{-8, 1\}$

24) $\left\{\frac{21}{4}\right\}$

Name_____

Assignment

Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

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

2) $\frac{r+5}{r} + \frac{5}{r} = \frac{r^2+r-56}{r^2-8r}$

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

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

5) $\frac{n-2}{4n-28} + \frac{1}{4n^2-28n} = \frac{1}{n^2-7n}$

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

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

8) $\frac{6n^2-9n-6}{n^2+3n} + \frac{n-2}{n^2+3n} = \frac{n+4}{n}$

9) $\frac{v^2-v-20}{v^3-3v^2} + \frac{4}{v^2-3v} = \frac{1}{v}$

10) $1 + \frac{k+8}{k+5} = \frac{k-4}{k}$

11) $\frac{a+5}{a+8} + \frac{1}{a^2+13a+40} = \frac{a^2+3a-28}{a^2+13a+40}$

12) $\frac{p^2+13p+40}{p^2+3p} = \frac{1}{p} + \frac{1}{p^2+3p}$

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

14) $\frac{3}{p^2-7p} = \frac{p+6}{p} - \frac{p^2-3p+2}{p^2-7p}$

15) $\frac{1}{x+6} - 1 = \frac{x-7}{x^2+6x}$

16) $\frac{2b+4}{b} = \frac{b-6}{b} - (b-8)$

17) $\frac{1}{n^2+2n} + \frac{n-2}{n} = \frac{n-6}{n}$

18) $\frac{r^2+3r-18}{r^3-r^2} + \frac{1}{r} = \frac{r-8}{r^3-r^2}$

19) $\frac{5}{4} + \frac{v+1}{2} = \frac{6v-18}{v-8}$

20) $1 = \frac{1}{b^2+7b-8} + \frac{b+5}{b+8}$

21) $\frac{1}{n^3-4n^2} = \frac{n^2+2n-35}{n^3-4n^2} + \frac{1}{n^2}$

22) $1 = \frac{1}{x^2+2x} - \frac{x-3}{x^2+2x}$

23) $\frac{m-1}{6m^2-23m-35} = \frac{1}{6m^2-23m-35} + \frac{m-2}{6m+7}$

24) $\frac{1}{x+6} = \frac{4}{x^2+6x} + \frac{5}{x^3+6x^2}$

Answers to Assignment (ID: 3)

1) $\left\{-\frac{9}{4}, 2\right\}$
2) $\{24\}$
3) $\left\{\frac{1}{3}\right\}$
4) $\{-1, 1\}$
5) $\{-1, 3\}$
6) $\{-5, 1\}$
7) $\{10\}$
8) $\{-1, 4\}$
9) $\left\{\frac{10}{3}\right\}$
10) $\{-2, -10\}$
11) $\left\{-\frac{54}{7}\right\}$
12) $\{-6\}$
13) $\left\{\frac{11}{3}\right\}$
14) $\left\{\frac{47}{2}\right\}$
15) $\{1, -7\}$
16) $\{5, 2\}$
17) $\left\{-\frac{9}{4}\right\}$
18) $\left\{-\frac{5}{2}, 2\right\}$
19) $\left\{16, \frac{1}{2}\right\}$
20) $\left\{\frac{4}{3}\right\}$
21) $\{-8, 5\}$
22) $\{-4, 1\}$
23) $\{6, 2\}$
24) $\{-1, 5\}$

Name_____

Assignment

Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

1) $\frac{1}{v^2 - 11v + 30} = \frac{1}{v - 6} + 6$

2) $\frac{x^2 + 9x + 14}{18x} = \frac{x^2 + 5x - 14}{18x} + \frac{1}{x}$

3) $\frac{x^2 + 9x + 8}{x^3 - 7x^2} - \frac{6}{x^3 - 7x^2} = \frac{1}{x}$

4) $\frac{4}{9k - 24} + \frac{2}{3} = \frac{3k^2 - 19k - 40}{9k - 24}$

5) $\frac{n}{n - 1} = \frac{1}{n^2 - 8n + 7} + \frac{n^2 - 5n + 6}{n^2 - 8n + 7}$

6) $\frac{8}{p^2 + 7p} = \frac{p + 8}{p} + \frac{6}{p^2 + 7p}$

7) $\frac{n^2 + 6n + 5}{2n^2 + 4n - 16} = \frac{1}{2n^2 + 4n - 16} - \frac{1}{n - 2}$

8) $\frac{1}{x^2 + 12x + 32} + 1 = \frac{6}{x + 8}$

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

10) $\frac{2n - 16}{n} = \frac{n + 4}{n} - \frac{4n^2 - 24n - 64}{n^2 + 8n}$

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

12) $\frac{a}{a - 1} + \frac{1}{a^2 - a} = 1$

13) $\frac{1}{v^2 + 3v} = \frac{v + 8}{v} - 1$

14) $\frac{1}{x^2 - 7x} - \frac{1}{x^3 - 7x^2} = \frac{x^2 + 7x - 8}{x^3 - 7x^2}$

15) $\frac{b^2 - 8b + 16}{b^2 - 3b} + \frac{1}{b^2 - 3b} = 1$

16) $\frac{1}{a + 6} = \frac{a - 5}{a + 6} + \frac{a^2 - 4a - 12}{a^2 + 6a}$

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

18) $\frac{1}{4} = \frac{7}{p^2 - 16} + \frac{5p - 30}{4p^2 - 64}$

19) $\frac{4x + 12}{x^3 - 2x^2} = \frac{6}{x^3 - 2x^2} + \frac{x + 7}{x^2}$

20) $\frac{1}{4} + \frac{n - 6}{4n^2 - 28n} = \frac{1}{4n^2 - 28n}$

21) $1 = \frac{n^2 + 4n + 3}{2n} - \frac{n^2 - 13n + 42}{2n}$

22) $\frac{3r + 24}{r^2 - r - 56} + \frac{r - 8}{r + 7} = \frac{r - 2}{r + 7}$

23) $1 = \frac{k+2}{k+4} - \frac{4}{k+2}$

24) $\frac{m+5}{2} = \frac{m+1}{2m+8} + \frac{m+3}{2}$

Answers to Assignment (ID: 4)

1) $\left\{\frac{29}{6}\right\}$

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

3) $\left\{-\frac{1}{8}\right\}$

4) $\left\{\frac{28}{3}, -1\right\}$

5) $\left\{-\frac{7}{2}\right\}$

6) $\{-9, -6\}$

7) $\{-2, -6\}$

8) $\{-3\}$

9) $\{3\}$

10) $\left\{\frac{56}{5}, -4\right\}$

11) $\{3\}$

12) $\{-1\}$

13) $\left\{-\frac{23}{8}\right\}$

14) $\{-7, 1\}$

15) $\left\{\frac{17}{5}\right\}$

16) $\{6, -1\}$

17) $\left\{-\frac{1}{3}\right\}$

18) $\{-2, 7\}$

19) $\{-5, 4\}$

20) $\{-1\}$

21) $\left\{\frac{13}{5}\right\}$

22) $\{24\}$

23) $\left\{-\frac{10}{3}\right\}$

24) $\{-7\}$

Name_____

Assignment

Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

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

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

3) $5 = \frac{1}{4n^2} - \frac{1}{4n}$

4) $x - 6 = \frac{x - 4}{x - 2} + \frac{x^2 + 5x + 6}{x - 2}$

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

6) $\frac{a + 4}{a^2 - a} + \frac{1}{a^2 - a} = \frac{a + 1}{a}$

7) $1 + \frac{6x^2 - 47x - 8}{x^2 + x - 6} = \frac{7x + 21}{x - 2}$

8) $\frac{b}{2b - 8} = \frac{1}{2} - \frac{2b^2 + 14b + 24}{b^2 - 4b}$

9) $\frac{1}{n + 5} = \frac{n - 6}{n^2 + 5n} - 1$

10) $\frac{5x^2 - 5x - 30}{7x^2 + 3x} = \frac{7}{x} - \frac{8}{7x + 3}$

11) $\frac{16x - 12}{x^3 - 8x^2} = \frac{1}{x^2 - 8x} - \frac{x + 8}{x^2}$

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

13) $k - 1 - \frac{k + 4}{5k + 3} = \frac{5k^2}{5k + 3}$

14) $\frac{r - 8}{r} = \frac{1}{r} + \frac{r^2 + 2r - 48}{r^2 - r}$

15) $\frac{1}{m} = \frac{3m - 18}{m^3 + 3m^2 - 18m} + \frac{1}{m^3 + 3m^2 - 18m}$

16) $\frac{6}{p + 4} = \frac{1}{p + 4} + p + 8$

17) $1 - \frac{5}{n^2 + 11n + 28} = \frac{1}{n + 4}$

18) $1 = \frac{2}{n^2 - 6n} - \frac{n^2 - 10n + 16}{n^2 - 6n}$

19) $\frac{7x^2 - 5x - 2}{x - 3} = \frac{x^2 - 14x + 48}{x - 3} + 8$

20) $\frac{x - 5}{3x^2 - 18x} = \frac{1}{3x - 18} + \frac{1}{3}$

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

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

23) $x + 4 = \frac{3x^2 - 2x - 16}{x - 3} - \frac{1}{x - 3}$

24) $\frac{1}{a - 2} = \frac{4}{3a - 6} + \frac{a}{3}$

Answers to Assignment (ID: 5)

1) $\{-1\}$

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

3) $\left\{\frac{1}{5}, -\frac{1}{4}\right\}$

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

5) $\{7, -1\}$

6) $\{3, -2\}$

7) $\left\{-\frac{7}{8}\right\}$

8) $\{-2, -6\}$

9) $\{-2, -3\}$

10) $\left\{\frac{51}{5}, -1\right\}$

11) $\{-19, 4\}$

12) $\{-3\}$

13) $\left\{-\frac{7}{3}\right\}$

14) $\left\{\frac{19}{4}\right\}$

15) $\{-1, 1\}$

16) $\{-9, -3\}$

17) $\{-2, -8\}$

18) $\{1, 7\}$

19) $\left\{-\frac{13}{6}, 2\right\}$

20) $\{5, 1\}$

21) $\{-2\}$

22) $\{-1, 1\}$

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

24) $\{1\}$

Name_____

Assignment

Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

1) $\frac{1}{k-3} + \frac{1}{k^2-8k+15} = \frac{7k^2-33k+20}{k^2-8k+15}$

2) $\frac{n+2}{12n-15} - \frac{1}{12n^2-15n} = \frac{7}{12n^2-15n}$

3) $\frac{p^2-p-6}{2p+6} + \frac{p^2-7p+12}{2p+6} = 1$

4) $2m+10 = \frac{m}{m+5} - \frac{m-8}{m+5}$

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

6) $\frac{1}{r^2+r-6} + 1 = \frac{r-4}{r^2+r-6}$

7) $v-8 = \frac{v^2+8v}{v+3} + \frac{v+2}{v+3}$

8) $\frac{1}{b^3+7b^2} + \frac{b^2-2b-48}{b^3+7b^2} = \frac{1}{b^2}$

9) $\frac{x+1}{2x^3-16x^2+14x} + \frac{x+7}{4x^2-4x} = \frac{x^2+x-30}{4x^3-32x^2+28x}$

10) $\frac{n^2-10n+24}{n^2+2n} - \frac{2n-2}{n^2+2n} = 1$

11) $\frac{1}{a+5} + \frac{5}{a^2+5a} = 8$

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

13) $\frac{x+7}{6x+3} = \frac{x^2+13x+42}{6x^2-21x-12} + \frac{2}{2x^2-7x-4}$

14) $\frac{1}{x} + \frac{6}{x} = \frac{6x^2+48x+90}{x^2+6x}$

15) $1 + \frac{1}{n^2+8n} = \frac{n+1}{n+8}$

16) $\frac{2}{k+2} = \frac{8k-24}{k+2} + k + 5$

17) $\frac{7x+7}{x^3+8x^2+15x} - \frac{4x-8}{x^3+8x^2+15x} = \frac{8}{x+3}$

18) $\frac{1}{n^3-7n^2} + \frac{n-6}{n^2-7n} = \frac{8}{n^3-7n^2}$

19) $\frac{2}{2k^2-7k-4} + \frac{1}{4} = \frac{k-6}{16k^2-56k-32}$

20) $\frac{m+5}{3m} = \frac{1}{3} - \frac{1}{3m^2+24m}$

21) $x+4 = \frac{x^2+4x-32}{x+5} + \frac{1}{x+5}$

22) $\frac{1}{8p} + 2 = \frac{7p^2-175}{8p}$

23) $\frac{r^2+2r+1}{r-4} = r+8 - \frac{1}{r-4}$

24) $1 + \frac{4}{x^2 - 3x} = \frac{x + 5}{x - 3}$

Answers to Assignment (ID: 6)

1) $\left\{\frac{6}{7}, 4\right\}$

2) $\{-4, 2\}$

3) $\{0, 5\}$

4) $\{-3, -7\}$

5) $\left\{-\frac{63}{5}\right\}$

6) $\{-1, 1\}$

7) $\left\{-\frac{13}{7}\right\}$

8) $\{9, -6\}$

9) $\{17\}$

10) $\left\{\frac{13}{7}\right\}$

11) $\left\{\frac{1}{8}\right\}$

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

13) $\left\{-\frac{38}{5}\right\}$

14) $\left\{-\frac{16}{3}, -\frac{3}{2}\right\}$

15) $\left\{-\frac{1}{7}\right\}$

16) $\{-16, 1\}$

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

18) $\{-1\}$

19) $\left\{\frac{7}{4}, 2\right\}$

20) $\left\{-\frac{41}{5}\right\}$

21) $\left\{-\frac{51}{5}\right\}$

22) $\left\{\frac{44}{7}, -4\right\}$

23) $\{17\}$

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

Name_____

Assignment

Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

1) $\frac{x+7}{x^3-4x^2}+\frac{4}{x^2-4x}=\frac{x^2+7x-8}{x^3-4x^2}$

2) $1-\frac{1}{v}=\frac{v^2+10v+21}{v^2-3v}$

3) $5+\frac{x+3}{x-1}=\frac{x^2-13x+42}{x^2-x}$

4) $\frac{b^2+7b+10}{b^2-7b}+\frac{1}{b}=1$

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

6) $1=\frac{8}{x^2-7x+10}+\frac{x^2+x-12}{x^2-7x+10}$

7) $\frac{n-6}{n+3}=\frac{n^2+n}{n^2+8n+15}+\frac{3}{n^2+8n+15}$

8) $\frac{8}{k^2+6k}-1=\frac{1}{k^2+6k}$

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

10) $\frac{1}{x}+\frac{x^2-25}{x}=x-2$

11) $\frac{1}{2}=\frac{3}{n^2-n-12}+\frac{n^2-9n+8}{2n^2-2n-24}$

12) $\frac{m+2}{m-7}=\frac{7m-42}{m^2-7m}+\frac{m^2+2m-35}{m^2-7m}$

13) $\frac{p+1}{4p+12}=\frac{1}{4}+\frac{p}{p^2+8p+15}$

14) $\frac{1}{r^3-r^2-20r}-\frac{1}{r^2-5r}=\frac{1}{r+4}$

15) $\frac{2v-6}{v+4}=\frac{v^2+10v+25}{v^2+4v}+\frac{v^2-8v+12}{v^2+4v}$

16) $1+\frac{1}{n^2+4n-5}=\frac{n-4}{n-1}$

17) $\frac{x}{x-8}-\frac{x-1}{x-5}=\frac{x^2+6x-7}{x^2-13x+40}$

18) $\frac{b^2-16b+64}{b}+\frac{2b-14}{b}=1$

19) $a-8+\frac{a^2-13a+42}{a}=\frac{a^2-a-42}{a}$

20) $\frac{1}{2k^2+8k}=1+\frac{k+5}{2k^2+8k}$

21) $x+3=\frac{x^2-25}{x+6}+\frac{1}{x+6}$

22) $\frac{1}{m}=\frac{m-2}{5m+3}+\frac{m^2-6m+9}{5m^2+3m}$

23) $1 + \frac{1}{x+3} = \frac{x+2}{x+4}$

24) $\frac{1}{n^2+6n+8} = \frac{n+5}{n^2+6n+8} - 8$

Answers to Assignment (ID: 7)

1) $\{-5, 3\}$

2) $\left\{-\frac{9}{7}\right\}$

3) $\left\{-\frac{21}{5}, 2\right\}$

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

5) $\{-9, -5\}$

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

7) $\left\{-\frac{33}{2}\right\}$

8) $\{1, -7\}$

9) $\left\{-\frac{1}{3}\right\}$

10) $\{12\}$

11) $\left\{\frac{13}{4}\right\}$

12) $\{11\}$

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

14) $\{3, 1\}$

15) $\left\{-\frac{37}{8}\right\}$

16) $\left\{-\frac{16}{3}\right\}$

17) $\{-1\}$

18) $\{5, 10\}$

19) $\{6, 14\}$

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

21) $\left\{-\frac{14}{3}\right\}$

22) $\left\{6, \frac{1}{2}\right\}$

23) $\left\{-\frac{10}{3}\right\}$

24) $\left\{-\frac{15}{8}\right\}$

Name_____

Assignment

Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

1) $1 + \frac{2x^2 - 4x - 48}{5x} = \frac{x^2 + 2x - 48}{5x}$

2) $\frac{1}{p^3 - 3p^2} + \frac{p^2 - 7p - 8}{p^3 - 3p^2} = \frac{1}{p - 3}$

3) $\frac{3}{n^2 + 5n} = \frac{n^2 + 3n - 18}{n^2 + 5n} + \frac{1}{n + 5}$

4) $\frac{n^2 - 3n + 2}{n^2 - 25} + \frac{3}{n^2 - 25} = \frac{5}{n - 5}$

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

6) $\frac{m^2 + 2m - 35}{m^2 + 4m} = 1 + \frac{8}{m^2 + 4m}$

7) $\frac{1}{v^2 - 7v} = \frac{v^2 - 3v - 40}{v^2 - 7v} - 1$

8) $1 - \frac{1}{b + 6} = \frac{2}{b^2 + 12b + 36}$

9) $\frac{x^2 - 9x + 20}{3x} + \frac{x^2 - 5x + 4}{3x} = 4$

10) $5 + \frac{1}{k^2 + 7k} = \frac{k + 8}{k^2 + 7k}$

11) $\frac{a + 3}{3} = \frac{a^2 + 5a}{3a + 18} + \frac{5a}{3a + 18}$

12) $\frac{x - 4}{x} = 1 - \frac{1}{x - 8}$

13) $\frac{p - 6}{p + 4} + \frac{5p - 20}{p^2 - 4p - 32} = 1$

14) $\frac{1}{x - 3} = \frac{x^2 - 11x + 28}{x^2 - x - 6} + \frac{1}{x^2 - x - 6}$

15) $\frac{x^2 + 13x + 42}{x^2 + 8x} = \frac{x - 1}{x} + \frac{1}{x^2 + 8x}$

16) $\frac{8}{n} = \frac{n + 2}{n^3 - 12n^2 + 36n} - \frac{1}{n^3 - 12n^2 + 36n}$

17) $\frac{1}{8x + 8} = 1 + \frac{12x + 3}{8x^2 - 56x - 64}$

18) $6 - \frac{3}{m - 1} = \frac{m - 8}{m + 3}$

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

20) $\frac{7n^2 - 63n + 126}{4n + 1} = 1 + \frac{n^2 - 36}{4n + 1}$

21) $\frac{1}{x - 4} = \frac{1}{4x^2 - 17x + 4} + \frac{6x^2 + 12x}{4x^2 - 17x + 4}$

22) $\frac{8b^2 + 8b - 48}{b^2 - b - 56} = 1 + \frac{1}{b - 8}$

23) $\frac{6}{v^2+4v} - \frac{2v+4}{v} = \frac{5}{v}$

24) $\frac{n+6}{3n+6} - \frac{1}{3n+3} = \frac{1}{3}$

Answers to Assignment (ID: 8)

1) $\{1\}$

2) $\{-1\}$

3) $\{-7, 3\}$

4) $\{-2, 10\}$

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

6) $\left\{-\frac{43}{2}\right\}$

7) $\left\{\frac{41}{4}\right\}$

8) $\{-4, -7\}$

9) $\{1, 12\}$

10) $\left\{\frac{1}{5}\right\}$

11) $\{18\}$

12) $\left\{\frac{32}{3}\right\}$

13) $\{12\}$

14) $\{9\}$

15) $\left\{-\frac{49}{6}\right\}$

16) $\left\{\frac{41}{8}, 7\right\}$

17) $\left\{\frac{53}{8}\right\}$

18) $\left\{\frac{7}{5}, -5\right\}$

19) $\{4, -5\}$

20) $\left\{\frac{23}{3}, \frac{7}{2}\right\}$

21) $\left\{-1, -\frac{1}{3}\right\}$

22) $\left\{-\frac{1}{7}, -1\right\}$

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

24) $\left\{-\frac{2}{3}\right\}$

Name_____

Assignment

Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

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

2) $\frac{x^2-7x}{x-6} + \frac{1}{x-6} = 1$

3) $\frac{x-1}{3} = \frac{x-5}{3} - \frac{2x-7}{9x}$

4) $\frac{1}{a^2-a} + \frac{7a+49}{a^2-a} = \frac{6a+30}{a}$

5) $\frac{n+6}{n^2-9n+8} - \frac{n^2+4n-12}{n^2-9n+8} = \frac{8}{n-8}$

6) $1 = \frac{p^2+13p+42}{p^2+2p} - \frac{p+7}{p^2+2p}$

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

8) $\frac{m+5}{m^2-5m-6} = \frac{1}{m^2-5m-6} + \frac{8m+32}{m+1}$

9) $\frac{1}{x-1} - 1 = \frac{x^2+12x+32}{x-1}$

10) $\frac{m+1}{2m} + \frac{m^2+10m+24}{2m} = \frac{m+7}{2}$

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

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

13) $\frac{r^2+7r+6}{r^2-r} = \frac{2r+16}{r-1} - 1$

14) $\frac{1}{x-1} = \frac{x+1}{x-7} - \frac{6}{x^2-8x+7}$

15) $\frac{1}{a^2-4a} - \frac{1}{a} = \frac{1}{a^3-11a^2+28a}$

16) $\frac{k^2+3k-40}{2k} + 4 = \frac{1}{k}$

17) $\frac{p+3}{p+1} = \frac{p}{p+1} - \frac{1}{p}$

18) $1 - \frac{1}{n^2+5n} = \frac{5}{n^2+5n}$

19) $\frac{8}{4n-3} = \frac{1}{4n-3} + n + 6$

20) $\frac{x^2-7x+10}{x^3-8x^2} = \frac{x-7}{x^3-8x^2} + \frac{x-4}{x^2-8x}$

21) $\frac{b+8}{b+1} = 1 + \frac{1}{b^2+3b+2}$

22) $\frac{1}{m^2-m} = \frac{1}{m-1} + 1$

23) $r - 2 - \dfrac{r^2 - r - 2}{r + 4} = \dfrac{1}{r + 4}$

24) $\dfrac{8}{x + 3} + \dfrac{x - 3}{x + 3} = 2x + 7$

Answers to Assignment (ID: 9)

1) $\left\{-\frac{25}{4}\right\}$

2) $\{7, 1\}$

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

4) $\left\{-\frac{16}{3}, \frac{5}{2}\right\}$

5) $\{-13, 2\}$

6) $\left\{-\frac{7}{2}\right\}$

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

8) $\left\{\frac{49}{8}, -4\right\}$

9) $\{-10, -3\}$

10) $\left\{-\frac{25}{4}\right\}$

11) $\{-2\}$

12) $\{-2, 1\}$

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

14) $\{0\}$

15) $\{6\}$

16) $\{-14, 3\}$

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

18) $\{-6, 1\}$

19) $\left\{-\frac{25}{4}, 1\right\}$

20) $\left\{\frac{17}{4}\right\}$

21) $\left\{-\frac{13}{7}\right\}$

22) $\{-1\}$

23) $\left\{\frac{7}{3}\right\}$

24) $\{-2, -4\}$

Name_____

Assignment

Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

1) $1 + \frac{1}{v^2 - v} = \frac{v^2 - 5v - 14}{v^2 - v}$

2) $\frac{1}{b+3} - (4b+1) = \frac{7}{b+3}$

3) $x - 3 = \frac{x^2 - 7x + 12}{x+2} + \frac{x-6}{x+2}$

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

5) $\frac{a+4}{a-1} - \frac{a^2 - 11a + 28}{2a-2} = \frac{a+7}{2a-2}$

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

7) $\frac{x+8}{x+5} = \frac{1}{x^2 + 6x + 5} + \frac{x+8}{x+1}$

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

9) $\frac{m-2}{4m-24} + \frac{1}{4m} = \frac{1}{4}$

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

11) $\frac{p^2 - 2p - 24}{p^2 - p} = \frac{p+1}{p} + \frac{1}{p}$

12) $\frac{1}{n^2 + 10n + 16} + \frac{n-5}{n+2} = \frac{n-4}{n^2 + 10n + 16}$

13) $\frac{b-2}{b+2} = \frac{b-3}{b^2 + 2b} + \frac{b^2 - 2b - 15}{b^2 + 2b}$

14) $\frac{n-1}{4n} + \frac{3}{4n^2 + 8n} = \frac{1}{4}$

15) $\frac{x^2 + 3x - 10}{20x} - \frac{7}{10x} = \frac{1}{4}$

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

17) $\frac{2x - 16}{x+5} = \frac{5x+5}{x^2 + 5x} + \frac{6}{x^2 + 5x}$

18) $\frac{v^2 + 5v - 14}{v^2 - 1} + \frac{8v + 40}{v^2 - 1} = \frac{2}{v+1}$

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

20) $1 = \frac{x+4}{x-3} - \frac{3}{x^2 + x - 12}$

21) $\frac{1}{4} - \frac{1}{2a+16} = \frac{5a}{4a-24}$

22) $1 - \frac{1}{x} = \frac{1}{x^2 - x}$

23) $\frac{x-4}{x} = \frac{4}{x^2+4x} + \frac{x^2-11x+24}{x^2+4x}$

24) $\frac{1}{b} + 1 = \frac{b^2+4b+4}{b^2+6b}$

Answers to Assignment (ID: 10)

1) $\left\{-\frac{15}{4}\right\}$

2) $\left\{-\frac{9}{4}, -1\right\}$

3) $\left\{\frac{12}{5}\right\}$

4) $\left\{-\frac{2}{3}, 1\right\}$

5) $\{9, 3\}$

6) $\{3, 1\}$

7) $\left\{-\frac{33}{4}\right\}$

8) $\left\{-\frac{11}{4}, 3\right\}$

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

10) $\{1, 7\}$

11) $\left\{-\frac{22}{3}\right\}$

12) $\{-7, 5\}$

13) $\{18\}$

14) $\{1\}$

15) $\{-4, 6\}$

16) $\left\{-\frac{1}{3}\right\}$

17) $\left\{-\frac{1}{2}, 11\right\}$

18) $\{-4, -7\}$

19) $\{-2\}$

20) $\left\{-\frac{25}{7}\right\}$

21) $\{-1, -9\}$

22) $\{2\}$

23) $\{4\}$

24) $\left\{-\frac{2}{3}\right\}$