MHF 4U

# Extra Practise Solving Rational Equations

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

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

2) $\frac{1}{2m} - \frac{5m+15}{2m^2} = \frac{m+5}{2m^2}$

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

4) $1 - \frac{1}{4v} = \frac{2}{v}$

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

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

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

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

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

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

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

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

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

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

15) $\frac{1}{3v+6} - \frac{4v-4}{v+2} = \frac{1}{v+2}$

16) $\frac{1}{m^2-2m} + \frac{m^2-36}{m^2-2m} = 1$

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

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

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

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

21) $1 = \frac{a-2}{a} - \frac{6}{a^2-4a}$

22) $\frac{x+2}{3} + \frac{x-3}{3x-12} = \frac{1}{3x-12}$

23) $\frac{n-3}{n+1}+\frac{1}{n^2+n}=\frac{n^2-2n-15}{n^2+n}$

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

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

# Answers to Extra Practise Solving Rational Equations (ID: 2)

1) $\{32\}$

2) $\{-4\}$

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

4) $\left\{\frac{9}{4}\right\}$

5) $\{1\}$

6) $\{-2\}$

7) $\{7\}$

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

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

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

11) $\{-9\}$

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

13) $\left\{\frac{9}{4}\right\}$

14) $\{0\}$

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

16) $\left\{\frac{35}{2}\right\}$

17) $\{-2\}$

18) $\left\{\frac{7}{2}, -\frac{11}{2}\right\}$

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

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

21) $\{1\}$

22) $\{-3\}$

23) $\{16\}$

24) $\{-3\}$

25) $\left\{\frac{11}{3}\right\}$