

Honors Math 3
Solving Rational Equations

Solve.

1. $\frac{2w + 10}{w^2 - 25} = \frac{15 - 3w}{5w - w^2}$

2. $\frac{3g + 6}{g^2 - 4} = \frac{5g + 25}{g^2 + 5g}$

3. $\frac{m - 1}{5} = \frac{5}{m - 1}$

4. $\frac{v - 10}{16} - \frac{-2}{v + 8} = 0$

5. $\frac{a}{2a + 1} + \frac{1}{4a + 3} = 0$

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

7. $\frac{2y}{y - 2} = \frac{10}{y^2 - 6y + 8}$

8. $r - 5 = \frac{14}{r}$

9. $y + 5 = \frac{6}{2 - y}$

10. $4n - 3 = \frac{n + 13}{n + 1}$

11. $y + 5 + \frac{6}{y - 2} = 0$

12. $5 = \frac{x + 5}{x - 2} - x$

13. $14 = \frac{k - 14}{k - 1} + 4k$

14. $\frac{3y^2 + 2}{5} + 1 = \frac{y + 3}{2}$

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

16. $\frac{1}{x} = \frac{1}{3} + \frac{2}{3x^2}$

17. $\frac{6}{r - 2} + 4 = \frac{3r}{r - 2}$

18. $\frac{2x + 1}{x} = \frac{x}{x + 2} + 2$

19. $\frac{n - 4}{n^2 + 2n} - \frac{1}{n} = 6$

20. $\frac{4}{y - 1} + 2 = \frac{4}{y^2 - y}$

21. $\frac{7}{s - 1} - \frac{10}{s^2 - s} = \frac{s + 2}{s}$

22. $\frac{2}{w^2 - 2w} - \frac{1}{3} = \frac{1}{w}$

23. $\frac{10x}{x + 2} = \frac{2x^2 - 3}{x^2 - 4} + \frac{2x - 3}{x - 2}$

24. $\frac{y^2 + 1}{y^2 - 1} + \frac{y + 3}{y - 1} = \frac{y}{y + 1}$

25. $\frac{2x - 24}{x^2 - 8x + 12} = \frac{3x}{x - 6} + \frac{5}{x - 2}$

26. $\frac{3f - 5}{f^2 + 4f + 3} + \frac{2f + 2}{f + 3} = \frac{f - 3}{f + 1}$

27. $\frac{n + 44}{2n^2 + 9n + 10} + \frac{2}{2n + 5} = \frac{3n}{n + 2}$

28. $\frac{2}{n^2 + 7n + 12} - \frac{2 - 4n}{n + 4} = \frac{2n}{n + 3}$

29. $\frac{2y}{y^2 + 3y - 10} + \frac{4}{y^2 + 6y + 5} = \frac{3y}{y^2 - y - 2}$

30. $\frac{5}{x^2 - x - 6} + \frac{x}{x^2 + 5x + 6} = \frac{2x}{x^2 - 9}$

31. $\frac{4m}{m^2 + 5m + 6} - \frac{3m}{m^2 + 6m + 8} = \frac{6}{m^2 + 7m + 12}$

32. $\frac{4a}{3a^2 + 20a + 12} + \frac{5}{a^2 + 5a - 6} = \frac{3a}{3a^2 - a - 2}$

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| <p>1.
 Answer: 15
 CodePath: EAS.ALG.L.L.21</p> <p>2.
 Answer: 5
 CodePath: EAS.ALG.L.L.23</p> <p>3.
 Answer: 6, -4
 CodePath: EAS.ALG.L.L.25</p> <p>4.
 Answer: -6, 8
 CodePath: EAS.ALG.L.L.27</p> <p>5.
 Answer: $-1, -\frac{1}{4}$
 CodePath: EAS.ALG.L.L.31</p> <p>6.
 Answer: -1, -7
 CodePath: EAS.ALG.L.L.34</p> <p>7.
 Answer: -1, 5
 CodePath: EAS.ALG.L.L.36</p> <p>8.
 Answer: 7, -2
 CodePath: EAS.ALG.L.L.37</p> <p>9.
 Answer: -4, 1
 CodePath: EAS.ALG.L.L.39</p> <p>10.
 Answer: ± 2
 CodePath: EAS.ALG.L.L.41</p> <p>11.
 Answer: -4, 1
 CodePath: EAS.ALG.L.L.44</p> <p>12.
 Answer: -5, 3
 CodePath: EAS.ALG.L.L.45</p> <p>13.
 Answer: $0, \frac{17}{4}$
 CodePath: EAS.ALG.L.L.46</p> <p>14.
 Answer: $1, -\frac{1}{6}$
 CodePath: EAS.ALG.L.L.49</p> | <p>15.
 Answer: -4, 1
 CodePath: EAS.ALG.L.L.53</p> <p>16.
 Answer: 1, 2
 CodePath: EAS.ALG.L.L.54</p> <p>17.
 Answer: \emptyset
 CodePath: EAS.ALG.L.L.58</p> <p>18.
 Answer: 2, -1
 CodePath: EAS.ALG.L.L.60</p> <p>19.
 Answer: -1
 CodePath: EAS.ALG.L.L.70</p> <p>20.
 Answer: -2
 CodePath: EAS.ALG.L.L.71</p> <p>21.
 Answer: 2, 4
 CodePath: EAS.ALG.L.L.73</p> <p>22.
 Answer: 3, -4
 CodePath: EAS.ALG.L.L.74</p> <p>23.
 Answer: $\frac{1}{2}, 3$
 CodePath: EAS.ALG.L.L.79</p> <p>24.
 Answer: -4
 CodePath: EAS.ALG.L.L.80</p> <p>25.
 Answer: -1
 CodePath: EAS.ALG.L.L.82</p> <p>26.
 Answer: -6
 CodePath: EAS.ALG.L.L.85</p> <p>27.
 Answer: -4, 2
 CodePath: EAS.ALG.L.L.89</p> |
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28.

Answer: $-2, 1$

CodePath: EAS.ALG.L.L.92

29.

Answer: -8

CodePath: EAS.ALG.L.L.93

30.

Answer: -5

CodePath: EAS.ALG.L.L.95

31.

Answer: 3

CodePath: EAS.ALG.L.L.96

32.

Answer: $2, 5$

CodePath: EAS.ALG.L.L.100