

Solving Radical Equations

Name _____

Below is a list of radical equations. You need to solve each one on a separate sheet of paper. On the blanks at the end of the page, write the letter that has the correct solution for the problem. Attach your work to this paper. If no work is attached, no credit will be given.

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|-----|--|----|--------------------------------|
| 1. | $\sqrt{3x+7} = x-1$ | A. | $x = \frac{44}{3}$ |
| 2. | $\sqrt{x-6} = \sqrt{\frac{1}{3}x}$ | B. | $x = 3$ |
| 3. | $-2\sqrt[5]{2x-1} + 4 = 0$ | C. | $x = \frac{78}{23}$ |
| 4. | $\sqrt{4x} = x-8$ | D. | $x = \frac{36}{7}$ |
| 5. | $\sqrt[3]{7x-9} + 11 = 14$ | E. | $x = 128$ |
| 6. | $\sqrt[4]{x^4+1} = 3x$ | F. | $x = \frac{\sqrt[4]{125}}{10}$ |
| 7. | $\sqrt[4]{2x} - 13 = -9$ | G. | $x = 9$ |
| 8. | $2\sqrt[3]{10-3x} = \sqrt[3]{2-x}$ | H. | $x = \frac{33}{2}$ |
| 9. | $(x+8)^{\frac{1}{4}} + 1 = 0$ | I. | $x = \frac{120}{11}$ |
| 10. | $\sqrt[3]{2x+15} - \frac{3}{2}\sqrt[3]{x} = 0$ | J. | $x = 4$ |
| 11. | $3(x+1)^{\frac{4}{3}} = 48$ | K. | $x = -165$ |
| 12. | $x^{\frac{5}{2}} - 10 = 22$ | L. | $x = 6$ |
| 13. | $x^{\frac{1}{3}} - \frac{2}{5} = 0$ | M. | $x = \frac{8}{125}$ |
| 14. | $(x+5)^{\frac{1}{2}} - 3 = 4$ | N. | no solution |
| 15. | $\sqrt{4x+15} - 3\sqrt{x} = 0$ | O. | $x = 7, x = -9$ |
| 16. | $\sqrt[3]{x+40} = -5$ | P. | $x = 16$ |

3. _____ 7. _____ 1. _____ 4. _____ 12. _____ 14. _____ 8. _____ 16. _____ 2. _____

6. _____ 10. _____ 9. _____ 5. _____ the 13. _____ 11. _____ 15. _____