

Name _____
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Date _____
Algebra II

Solving Radical Equations

Solve the following radical equations and CHECK each solution

1. $\sqrt{x-4} = 6$

2. $5\sqrt{4x-8} + 2 = 12$

3. $5 + \sqrt[3]{x+5} = 7$

4. $\sqrt[3]{x} = x$

5. $4 - \sqrt{2x-5} = 1$

6. $\sqrt{x^2 + x} = \sqrt{4x+10}$

$$7. x = \sqrt{7x-12}$$

$$8. x+4 = \sqrt{x+6}$$

$$9. x = 1 + \sqrt{x+5}$$

$$10. 3 = -x + \sqrt{x+5}$$

$$11. x = 2 + \sqrt{x+4}$$

$$12. \sqrt{4y+3} = 2y$$

13. $\sqrt{x-5} + x = 7$

14. $\sqrt{2x-7} + x = 5$

15. Solve algebraically for all values of x : $\sqrt{x-4} + x = 6$

16. The solution set for the equation $\sqrt{x+14} - \sqrt{2x+5} = 1$ is

1) $\{-6\}$

3) $\{18\}$

2) $\{2\}$

4) $\{2, 22\}$

17. The solution set for the equation $\sqrt{56-x} = x$ is

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

2) $\{-7, 8\}$

3) $\{7\}$

4) $\{\}$

18. Solve algebraically for x : $\sqrt{x^2 + x - 1} + 11x = 7x + 3$

19. The speed of a tidal wave, s , in hundreds of miles per hour, can be modeled by the equation $s = \sqrt{t} - 2t + 6$, where t represents the time from its origin in hours. Algebraically determine the time when $s = 0$.