

Name \_\_\_\_\_

Honors Algebra II  
Unit 5B: Radical Functions  
WS 2 – Solving Radical Equations and  
Inequalities

SHOW ALL WORK ON A SEPARATE SHEET OF  
PAPER.

Solve each equation

1.  $\sqrt{x+2} = 5$

2.  $\sqrt{x+4} = 3\sqrt{x}$

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

4.  $\sqrt{-14x+2} = x-3$

5.  $4(x-12)^{\frac{1}{3}} = -16$

6.  $\sqrt[3]{4x+1} - 5 = 0$

7.  $3\sqrt{x-11} = 18$

8.  $\sqrt[4]{10x+11} = 3$

9.  $x+2 = \sqrt{3x+6}$

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

11.  $5(6x+1)^{\frac{1}{4}} = 10$

12.  $4(7x+18)^{\frac{1}{2}} = 4x$

13.  $\sqrt{x-3} = \sqrt{x+15} - 2$

14.  $\sqrt{x+16} = x - \sqrt{x+7}$

15.  $\sqrt{x-3} - \sqrt{x-2} = 1$

16.  $\sqrt{\sqrt{x-3}} = \sqrt{x-15}$

17.  $\sqrt{x^2 - 7x + 12} - x = x - 6$

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Solve each inequality

18.  $\sqrt{4x+5} \leq 3$

19.  $\sqrt{x-4} + 3 > 9$

20.  $\sqrt[3]{x+3} \geq 2$

21.  $\sqrt{x-7} + 9 < 12$

22.  $\sqrt[3]{x-6} + 7 > 4$

23.  $\sqrt{x+2} - 1 \leq 4$

Solve each inequality

18.  $\sqrt{4x+5} \leq 3$

19.  $\sqrt{x-4} + 3 > 9$

20.  $\sqrt[3]{x+3} \geq 2$

21.  $\sqrt{x-7} + 9 < 12$

22.  $\sqrt[3]{x-6} + 7 > 4$

23.  $\sqrt{x+2} - 1 \leq 4$