

Name: \_\_\_\_\_ Period: \_\_\_\_\_

## 5-7

### Solving Radical Equations and Inequalities

Solve each equation.

1.  $\sqrt{x} = 8$

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

3.  $\sqrt{2p} + 3 = 10$

4.  $4\sqrt{3h} - 2 = 0$

5.  $c^{\frac{1}{2}} + 6 = 9$

6.  $18 + 7h^{\frac{1}{2}} = 12$

7.  $\sqrt[3]{d+2} = 7$

8.  $\sqrt[5]{w-7} = 1$

9.  $6 + \sqrt[3]{q-4} = 9$

10.  $\sqrt[4]{y-9} + 4 = 0$

11.  $\sqrt{2m-6} - 16 = 0$

12.  $\sqrt[3]{4m+1} - 2 = 2$

13.  $\sqrt{8n-5} - 1 = 2$

14.  $\sqrt{1-4t} - 8 = -6$

15.  $\sqrt{2t-5} - 3 = 3$

16.  $(7v-2)^{\frac{1}{4}} + 12 = 7$

17.  $(3g+1)^{\frac{1}{2}} - 6 = 4$

18.  $(6u-5)^{\frac{1}{3}} + 2 = -3$

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19.  $\sqrt{2d - 5} = \sqrt{d - 1}$

20.  $\sqrt{4r - 6} = \sqrt{r}$

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

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

Solve each inequality.

23.  $3\sqrt{a} \geq 12$

24.  $\sqrt{z + 5} + 4 \leq 13$

25.  $8 + \sqrt{2q} \leq 5$

26.  $\sqrt{2a - 3} < 5$

27.  $9 - \sqrt{c + 4} \leq 6$

28.  $\sqrt{x - 1} < 2$

29.  $4\sqrt{x + 1} \geq 12$

30.  $5 + \sqrt{c - 3} \leq 6$

32.  $-2 + \sqrt{3x + 3} < 7$

33.  $-\sqrt{2a + 4} \geq -6$

34.  $2\sqrt{4r - 3} > 10$

35.  $4 - \sqrt{3x + 1} > 3$

23.  $\sqrt{y + 4} - 3 \geq 3$

24.  $-3\sqrt{11r + 3} \geq -15$