

## Solving Radical Equations

Date \_\_\_\_\_ Period \_\_\_\_\_

**CLASS EXAMPLES - Solve each equation.**

1)  $\sqrt{b-5} = 2$

2)  $-1 = \sqrt{x-5}$

**Solve each equation.**

3)  $\sqrt{x-2} + 10 = 11$

4)  $17 = 7 + \sqrt{5x}$

5)  $\sqrt{6m+10} = 8$

6)  $\sqrt{3n+25} = \sqrt{-7-n}$

**CLASS EXAMPLES: Solve each equation. Remember to check for extraneous solutions.**

7)  $\sqrt{72-x} = x$

8)  $m = 3 + \sqrt{3m-9}$

**Solve each equation. Remember to check for extraneous solutions.**

9)  $\sqrt{20-n} = n$

10)  $m-3 = \sqrt{6m-26}$

11)  $2 + \sqrt{6r-5} = r$

12)  $-8 = -m + \sqrt{37-4m}$

**CLASS EXAMPLES: Solve each equation.**

13)  $v^{\frac{3}{2}} = 27$

14)  $(8p)^{\frac{1}{2}} - 8 = 0$

**Solve each equation.**

15)  $8 + 5p^{\frac{5}{3}} = 5128$

16)  $(x+13)^{-\frac{3}{2}} = \frac{1}{27}$

17)  $10 = x^{\frac{4}{3}} - 6$

18)  $-648 = -3(2x-12)^{\frac{3}{2}}$

## Solving Radical Equations

Date \_\_\_\_\_ Period \_\_\_\_\_

**CLASS EXAMPLES - Solve each equation.**

1)  $\sqrt{b-5} = 2$

{9}

2)  $-1 = \sqrt{x-5}$

{16}

**Solve each equation.**

3)  $\sqrt{x-2} + 10 = 11$

{3}

4)  $17 = 7 + \sqrt{5x}$

{20}

5)  $\sqrt{6m+10} = 8$

{9}

6)  $\sqrt{3n+25} = \sqrt{-7-n}$

{-8}

**CLASS EXAMPLES: Solve each equation. Remember to check for extraneous solutions.**

7)  $\sqrt{72-x} = x$

{8}

8)  $m = 3 + \sqrt{3m-9}$

{6, 3}

**Solve each equation. Remember to check for extraneous solutions.**

9)  $\sqrt{20-n} = n$

{4}

10)  $m-3 = \sqrt{6m-26}$

{7, 5}

11)  $2 + \sqrt{6r-5} = r$

{9}

12)  $-8 = -m + \sqrt{37-4m}$

{9}

**CLASS EXAMPLES: Solve each equation.**

13)  $v^{\frac{3}{2}} = 27$

{9}

14)  $(8p)^{\frac{1}{2}} - 8 = 0$

{8}

**Solve each equation.**

15)  $8 + 5p^{\frac{5}{3}} = 5128$

{64}

16)  $(x+13)^{-\frac{3}{2}} = \frac{1}{27}$

{-4}

17)  $10 = x^{\frac{4}{3}} - 6$

{8, -8}

18)  $-648 = -3(2x-12)^{\frac{3}{2}}$

{24}

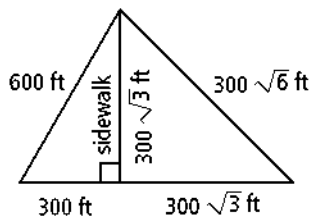
19) The formula  $P = 4\sqrt{A}$  relates the perimeter  $P$ , in units, of a square to its area  $A$ , in square units. What is the area of the square window shown below?



20) The velocity of an object dropped from a tall building is given by the formula  $v = \sqrt{64h}$ , where  $v$  is the velocity, and  $h$  is the height. If the Velocity is 32ft/s at the ground level, from what height was the ball dropped?

21) The formula  $A = 6V^{\frac{2}{3}}$  relates the surface area  $A$ , in square units, of a cube to the volume  $V$ , in cubic units. What is the volume of a cube with surface area 486 in.<sup>2</sup>?

22) A park in the shape of a triangle has a sidewalk dividing it into two parts.



a. If a man walks around the perimeter of the park, how far will he walk?

b. What is the area of the park?

**Homework: Finish this sheet, and Pg. 395 #9-33 multiples of 3; and #41.**  
(For #41, see example 5 on page 394 first.)