

4.7 Solving Radicals

Date _____

Solve each equation. Remember to check for extraneous solutions.

1) $\sqrt{v+9} + 8 = 8$

2) $\left(\frac{b}{6}\right)^{\frac{1}{2}} = 1$

3) $9 = (-3 - 12r)^{\frac{1}{2}}$

4) $-3\sqrt{m-2} = -12$

5) $(21 - b)^{\frac{1}{2}} = (b - 7)^{\frac{1}{2}}$

6) $\sqrt{3n+6} = \sqrt{2n+7}$

7) $\sqrt{5x+1} = \sqrt{6x}$

8) $(3p - 6)^{\frac{1}{2}} = (19 - 2p)^{\frac{1}{2}}$

$$9) n = (20 - 8n)^{\frac{1}{2}}$$

$$10) x = (-100 + 25x)^{\frac{1}{2}}$$

$$11) v = \sqrt{-39 + 16v}$$

$$12) (306 - a)^{\frac{1}{2}} = a$$

$$13) x = 5 + (6x - 39)^{\frac{1}{2}}$$

$$14) (5v + 29)^{\frac{1}{2}} - v = 1$$

$$15) a = 8 + \sqrt{28 - 3a}$$

$$16) \sqrt{2p + 3} = p + 2$$

Answers to 4.7 Solving Radicals

1) $\{-9\}$

5) $\{14\}$

9) $\{2\}$

13) $\{8\}$

2) $\{6\}$

6) $\{1\}$

10) $\{5, 20\}$

14) $\{7\}$

3) $\{-7\}$

7) $\{1\}$

11) $\{13, 3\}$

15) $\{9\}$

4) $\{18\}$

8) $\{5\}$

12) $\{17\}$

16) $\{-1\}$