

## Square Root Equations

Solve each equation. Remember to check for extraneous solutions.

1)  $3 = \sqrt{b - 1}$

2)  $2 = \sqrt{\frac{x}{2}}$

3)  $\sqrt{-8 - 2a} = 0$

4)  $\sqrt{x + 4} = 0$

5)  $5 = \sqrt{r - 3}$

6)  $\sqrt{2m - 6} = \sqrt{3m - 14}$

7)  $\sqrt{8k} = k$

8)  $\sqrt{9 - b} = \sqrt{1 - 9b}$

9)  $\sqrt{3 - 2x} = \sqrt{1 - 3x}$

10)  $\sqrt{3k - 11} = \sqrt{5 - k}$

$$11) (20 - r)^{\frac{1}{2}} = r$$

$$12) (6b)^{\frac{1}{2}} = (8 - 2b)^{\frac{1}{2}}$$

$$13) \sqrt{56 - r} = r$$

$$14) \sqrt{-10 + 7p} = p$$

$$15) (18 - n)^{\frac{1}{2}} = \left(\frac{n}{8}\right)^{\frac{1}{2}}$$

$$16) \sqrt{2v - 7} = v - 3$$

$$17) -3 = (37 - 3n)^{\frac{1}{2}} - n$$

$$18) (-3 - 4x)^{\frac{1}{2}} - (-2 - 2x)^{\frac{1}{2}} = 1$$

$$19) x = 5 + (3x - 11)^{\frac{1}{2}}$$

$$20) 2 = \sqrt{3b - 2} - \sqrt{10 - b}$$

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Solve each equation. Remember to check for extraneous solutions.

$$1) 3 = \sqrt{b-1}$$

{10}

$$2) 2 = \sqrt{\frac{x}{2}}$$

{8}

$$3) \sqrt{-8-2a} = 0$$

{-4}

$$4) \sqrt{x+4} = 0$$

{-4}

$$5) 5 = \sqrt{r-3}$$

{28}

$$6) \sqrt{2m-6} = \sqrt{3m-14}$$

{8}

$$7) \sqrt{8k} = k$$

{0, 8}

$$8) \sqrt{9-b} = \sqrt{1-9b}$$

{-1}

$$9) \sqrt{3-2x} = \sqrt{1-3x}$$

{-2}

$$10) \sqrt{3k-11} = \sqrt{5-k}$$

{4}

$$11) (20 - r)^{\frac{1}{2}} = r$$

{4}

$$12) (6b)^{\frac{1}{2}} = (8 - 2b)^{\frac{1}{2}}$$

{1}

$$13) \sqrt{56 - r} = r$$

{7}

$$14) \sqrt{-10 + 7p} = p$$

{2, 5}

$$15) (18 - n)^{\frac{1}{2}} = \left(\frac{n}{8}\right)^{\frac{1}{2}}$$

{16}

$$16) \sqrt{2v - 7} = v - 3$$

{4}

$$17) -3 = (37 - 3n)^{\frac{1}{2}} - n$$

{7}

$$18) (-3 - 4x)^{\frac{1}{2}} - (-2 - 2x)^{\frac{1}{2}} = 1$$

{-3, -1}

$$19) x = 5 + (3x - 11)^{\frac{1}{2}}$$

{9}

$$20) 2 = \sqrt{3b - 2} - \sqrt{10 - b}$$

{6}