

Radical Equations

Solve each equation. Remember to check for extraneous solutions.

1) $\sqrt{x} = 10$

2) $10 = \sqrt{\frac{m}{10}}$

3) $\sqrt{v-4} = 3$

4) $6 = \sqrt{v-2}$

5) $\sqrt{n} = 9$

6) $5 = \sqrt{x+3}$

7) $2 = \sqrt{4b}$

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

9) $-8 + \sqrt{5a-5} = -3$

10) $10\sqrt{9x} = 60$

11) $1 = \sqrt{x-5}$

12) $-10\sqrt{v-10} = -60$

Answers

Solve each equation. Remember to check for extraneous solutions.

$$1) \sqrt{x} = 10$$
$$\{100\}$$

$$2) 10 = \sqrt{\frac{m}{10}}$$
$$\{1000\}$$

$$3) \sqrt{v-4} = 3$$
$$\{13\}$$

$$4) 6 = \sqrt{v-2}$$
$$\{38\}$$

$$5) \sqrt{n} = 9$$
$$\{81\}$$

$$6) 5 = \sqrt{x+3}$$
$$\{22\}$$

$$7) 2 = \sqrt{4b}$$
$$\{1\}$$

$$8) \sqrt{n+9} = 1$$
$$\{-8\}$$

$$9) -8 + \sqrt{5a-5} = -3$$
$$\{6\}$$

$$10) 10\sqrt{9x} = 60$$
$$\{4\}$$

$$11) 1 = \sqrt{x-5}$$
$$\{6\}$$

$$12) -10\sqrt{v-10} = -60$$
$$\{46\}$$

$$13) 10 + \sqrt{10m - 1} = 13$$

$$14) -12 = -6\sqrt{b + 4}$$

$$15) \sqrt{v + 3} - 1 = 7$$

$$16) 90 = 9\sqrt{25v}$$

$$17) \sqrt{3n} = \sqrt{4n - 1}$$

$$18) \sqrt{2n - 88} = \sqrt{\frac{n}{6}}$$

$$19) \sqrt{\frac{x}{10}} = \sqrt{3x - 58}$$

$$20) \sqrt{3n + 12} = \sqrt{n + 8}$$

$$21) \sqrt{n} = \sqrt{2n - 6}$$

$$22) \sqrt{11 - x} = \sqrt{x - 7}$$

$$23) \sqrt{72 - x} = \sqrt{\frac{x}{5}}$$

$$24) \sqrt{x + 3} = \sqrt{1 - x}$$

$$25) \sqrt{2k + 40} = \sqrt{-16 - 2k}$$

$$26) \sqrt{x + 8} = \sqrt{3x + 8}$$

Answers

$$13) 10 + \sqrt{10m - 1} = 13$$

{1}

$$14) -12 = -6\sqrt{b + 4}$$

{0}

$$15) \sqrt{v + 3} - 1 = 7$$

{61}

$$16) 90 = 9\sqrt{25v}$$

{4}

$$17) \sqrt{3n} = \sqrt{4n - 1}$$

{1}

$$18) \sqrt{2n - 88} = \sqrt{\frac{n}{6}}$$

{48}

$$19) \sqrt{\frac{x}{10}} = \sqrt{3x - 58}$$

{20}

$$20) \sqrt{3n + 12} = \sqrt{n + 8}$$

{-2}

$$21) \sqrt{n} = \sqrt{2n - 6}$$

{6}

$$22) \sqrt{11 - x} = \sqrt{x - 7}$$

{9}

$$23) \sqrt{72 - x} = \sqrt{\frac{x}{5}}$$

{60}

$$24) \sqrt{x + 3} = \sqrt{1 - x}$$

{-1}

$$25) \sqrt{2k + 40} = \sqrt{-16 - 2k}$$

$$26) \sqrt{x + 8} = \sqrt{3x + 8}$$