

Name:

Solving Radical Equations

Solve for the unknown variable

① $\sqrt{5x+4} = \sqrt[3]{x}$

② $\sqrt[3]{p} = 2$

③ $\sqrt{s} = \sqrt{2s-6}$

④ $\sqrt{3+x} + \sqrt{x} = \frac{6}{\sqrt{3+x}}$

⑤ $\sqrt{2-\sqrt{r}} = \sqrt{r}$

⑥ $\sqrt{9m} = m$

⑦ $\sqrt{m} + 4 = 0$

⑧ $\sqrt{x-3} = x-5$

⑨ $2 = \sqrt{x-5} - \sqrt{x+16}$

⑩ $\sqrt{8-p} = 2 + \sqrt{2p+3}$

⑪ $a-6 = \sqrt{18-3a}$

⑫ $\sqrt{12-q} = q$

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Answers

$$\textcircled{1} \sqrt{5x+4} = \sqrt[3]{x}$$

$$\underline{x = 1}$$

$$\textcircled{3} \sqrt{s} = \sqrt{2s-6}$$

$$\underline{s = 6}$$

$$\textcircled{5} \sqrt{2-\sqrt{r}} = \sqrt{r}$$

$$\underline{r = 1}$$

$$\textcircled{7} \sqrt{m} + 4 = 0$$

$$\underline{\text{No solution}}$$

$$\textcircled{9} 2 = \sqrt{x-5} - \sqrt{x+16}$$

$$\underline{\text{No solution}}$$

$$\textcircled{11} a - 6 = \sqrt{18-3a}$$

$$\underline{a = 6}$$

$$\textcircled{2} \sqrt[3]{p} = 2$$

$$\underline{p = 8}$$

$$\textcircled{4} \sqrt{3+x} + \sqrt{x} = \frac{6}{\sqrt{3+x}}$$

$$\underline{x = 1}$$

$$\textcircled{6} \sqrt{9m} = m$$

$$\underline{m = (0, 9)}$$

$$\textcircled{8} \sqrt{x-3} = x-5$$

$$\underline{x = (4, 7)}$$

$$\textcircled{10} \sqrt{8-p} = 2 + \sqrt{2p+3}$$

$$\underline{p = -1}$$

$$\textcircled{12} \sqrt{12-q} = q$$

$$\underline{q = 3}$$