

HW 8-4 Solving Radical Equations

Name Selected Answers

1) $\sqrt{x} = 10$

check

$\sqrt{100} = 10 \checkmark$

$x = 100$

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

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

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

$6^2 = v-2$

$v = 38$

check

$6 = \sqrt{38-2}$

$= \sqrt{36} \checkmark$

5) $\sqrt{n} = 9$

check

$n = 81$

$\sqrt{81} = 9$

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

7. $\sqrt[3]{4x+1} = 7$

8. $\sqrt[3]{n-3} = \sqrt[3]{4n-7}$

$n-3 = 4n-7$

$n = \frac{4}{3}$

check

$\sqrt[3]{\frac{4}{3}-3} = \sqrt[3]{4(\frac{4}{3})-7}$

$\sqrt[3]{-\frac{5}{3}} = \sqrt[3]{-\frac{5}{3}} \checkmark$

9. $\sqrt[3]{3x+2} = 4$

check

$3x+2 = 64$

$x = \frac{62}{3}$

$\sqrt[3]{3(\frac{62}{3})+2} = 4$

$\sqrt[3]{62+2} = 4$

$\sqrt[3]{64} = 4 \checkmark$

10. $\sqrt[3]{4x} = 6$

$$11. \sqrt{x+4} + 5 = 7$$

$$x = 0$$

check

$$\sqrt{0+4} + 5 = 7$$

$$2 + 5 = 7 \checkmark$$

$$12. \sqrt[3]{x-1} + 6 = 9$$

$$13. \sqrt{x+5} = x+3$$

$$14. \sqrt{x+6} = x+4$$

$$x+6 = x^2 + 8x + 16$$

$$0 = (x+2)(x+5)$$

$$x = -2, -5$$

check

$$\sqrt{-2+6} = -2+4$$

$$\sqrt{4} = 2 \checkmark$$

check

$$\sqrt{-5+6} = -5+4$$

$$\sqrt{1} = -1 \text{ no}$$