

**Practice 7-5** ..... **Solving Square Root and Other Radical Equations**

**Solve. Check for extraneous solutions.**

**1.**  $(x - 2)^{\frac{1}{3}} = 5$

**2.**  $3x^{\frac{4}{3}} + 5 = 53$

**3.**  $4x^{\frac{3}{2}} - 5 = 103$

**4.**  $\sqrt{x+1} = x - 1$

**5.**  $\sqrt{2x+1} = -3$

**6.**  $x^{\frac{1}{2}} - 5 = 0$

**7.**  $\sqrt{x+7} = x - 5$

**8.**  $(2x+1)^{\frac{1}{3}} = -3$

**9.**  $2x^{\frac{1}{3}} - 2 = 0$

**10.**  $\sqrt{2x-5} = 7$

**11.**  $\sqrt{2x-4} = x - 2$

**12.**  $\sqrt{x} + 6 = x$

**13.**  $\sqrt{x+2} = 10 - x$

**14.**  $\sqrt{4x+2} = \sqrt{3x+4}$

**15.**  $(7x-3)^{\frac{1}{2}} = 5$

**16.**  $(x-2)^{\frac{2}{3}} - 4 = 5$

**17.**  $2\sqrt{x-1} = \sqrt{26+x}$

**18.**  $2x^{\frac{3}{4}} = 16$

**19.**  $\sqrt{7x-6} - \sqrt{5x+2} = 0$

**20.**  $\sqrt{3x-3} - 6 = 0$

**21.**  $5\sqrt{x} + 2 = 12$

**22.**  $2x^{\frac{4}{3}} - 2 = 160$

**23.**  $4x^{\frac{1}{2}} - 5 = 27$

**24.**  $\sqrt{x+1} = x + 1$

$$25. \sqrt{2x+1} = -5$$

$$26. x^{\frac{1}{6}} - 2 = 0$$

$$27. \sqrt{x+2} = x - 18$$

$$28. (2x+1)^{\frac{1}{3}} = 1$$

**29.**  $x^{\frac{1}{4}} + 3 = 0$

**30.**  $\sqrt[3]{2x-4} = -2$