Name: _____ Date: _____

Section 5.3 Extra Practice

State the restrictions on the values for each variable.

1. Solve for x in each equation.

   a) $\sqrt{x+3} = 7$

   b) $\sqrt{5x} = 4$

   c) $3\sqrt{5-3x} = 0$

   d) $\sqrt{-2x} = 24$

2. Solve and verify.

   a) $\sqrt{7x} + 1 = 15$

   b) $\sqrt{y^2 + 1} - y = 1$

   c) $8 - \sqrt{1+v} = 5$

   d) $-5 = 2 - \sqrt{2x+15}$

3. Solve and verify.

   a) $\sqrt{4-3m} = m$

   b) $\sqrt{x^2 - 1} = 2\sqrt{x+1}$

   c) $n - \sqrt{n} = 4$

   d) $\sqrt{3x^2 + 2} = 2x + 1$

4. Solve each radical equation.

   a) $\sqrt{x+5} = \sqrt{2x-3}$

   b) $\sqrt{y^2 - 1} = 2\sqrt{y+1}$

   c) $\sqrt{3x+4} = \sqrt{x-2}$

   d) $\sqrt{2p^2 - 3} = \sqrt{5p}$

5. Solve and check.

   a) $\sqrt{w+1} = \sqrt{w+4}$

   b) $\sqrt{2x+4} - \sqrt{x} = 2$

   c) $\sqrt{y+12} - 2 = \sqrt{y}$

   d) $\sqrt{x-5} - \sqrt{x+10} = -3$

6. Solve each radical equation.

   a) $\sqrt{3 + \sqrt{x}} = 4$

   b) $2 = \sqrt{\sqrt{8x} - 4}$

7. John solves the equation $\sqrt{x+6} - x = 4$. He determines two solutions: $x = -2$ and $x = -5$. Identify whether either of these values is extraneous.

8. The equation $t = \sqrt{\dfrac{d}{4.9}}$ describes the time, t, in seconds, for an object to fall from a height of d metres. Determine the original height of an object that takes 4.3 s to reach the ground. Express the answer to the nearest tenth of a metre.