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.