Name _____ Class _____ Date _____

10-4 Practice

Form K

Solving Radical Equations

Solve each radical equation. Check your solution.

1. $\sqrt{y}+6=12$

2. $\sqrt{4n}-6=0$

3. $\sqrt{3k+3}=6$

4. $\sqrt{4p-8}=8$

5. $\sqrt{5t+1}=9$

6. $\sqrt{\frac{x^2}{8}}=12$

7. $\sqrt{\frac{3m}{2}}=3$

8. $\sqrt{\frac{a^2}{4}}=8$

9. The motion of a pendulum can be modeled by $t = 2\sqrt{\frac{l}{3.3'}}$ where t is the time in seconds for one complete swing and l is the length of the pendulum in feet. If the pendulum takes 2 seconds to complete one swing, how long is the pendulum? Round to the nearest hundredth of a foot.

10. The length r of the radius of a sphere is given by $r = \sqrt{\frac{SA}{4\pi}}$, where SA represents the sphere's surface area. If a sphere has a surface area of 276 cm^2, what is the length of its radius? Use $\pi = 3.14$. Round to the nearest hundredth of a centimeter.

11. The distance d in feet that it takes an automobile to stop if it is traveling S miles per hour is given by $S = \sqrt{21d}$. Find the distance it would take an automobile traveling 45 miles per hour to stop. Round your answer to the nearest tenth of a foot.

Name _____ Class _____ Date _____

10-4 Practice (continued) *Form K*

Solving Radical Equations

Solve each radical equation. Check your solution.

12. $\sqrt{5p+1} = \sqrt{2p+7}$

13. $\sqrt{n+3} = \sqrt{11-n}$

14. $\sqrt{t^2+3} = \sqrt{4t}$

15. $\sqrt{2b^2+6} = \sqrt{5b}$

16. $10 = \sqrt{8q+36}$

17. $\frac{z}{2} = \sqrt{z-5}$

Solve each radical equation. Check your solution. If there is no solution, write *no solution*.

18. $x = \sqrt{-x+20}$

19. $g = \sqrt{g+2}$

20. $h = \sqrt{-13h-42}$

21. $w = \sqrt{7w+18}$

22. Writing What is an extraneous solution? How do you determine if a solution is extraneous?

23. Open-Ended Write a radical equation that has two solutions. Solve the equation. Check both solutions. Show your work.