Name

Class

Date



Solving Radical Equations

**Practice**

**Solve each radical equation. Check your solution.**

**1. 2.**$ \sqrt[3]{2t}-3=11$ **3.**

**4. 5. 6.**$ 2= \sqrt[3]{-3y-5}$

**7. 8.  9.** $\sqrt[3]{\frac{b}{4 }}=-2$

1. You decide to install a rope swing at the bend in the river. The time *t in* seconds for the rope swing to make one swing is given by, where *l* is the length of the rope swing in feet. If one swing takes 3.5 seconds, how long is the rope swing? Round your answer to the nearest tenth of a foot.
2. The radius *r* of a sphere is given by, where *SA* represents the sphere’s surface area. If a sphere has a surface area of 531 in.2, what is the length of its radius? Use *π* ***=*** 3.14. Round to the nearest hundredth of an inch.

**12.** The speed *V* in feet per second that an acorn falls from a tree is given by  , where *d* is the distance in feet that the acorn has fallen. An acorn

hits the ground at a speed of 28 feet per second. How far did the acorn fall?



**13.** Harrison bought a 10-foot ramp to load his dirt bike into the back of his truck. The ramp hooks to the 3-foot-high tailgate. How far away from the tailgate does the ramp sit on the ground? Round your answer to the nearest tenth of a foot.

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Solving Radical Equations

**Practice** (continued)

**Solve each radical equation. Check your solution.**

**14. 15. 16.**

**17. 18. 19.**

**20. 21. 22.**

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

**23. 24. 25.**

**26. 27. 28.**

1. **Error Analysis** A student solved the equationand found the solutions 7 and –2. Describe and correct the error.
2. The distance *d* in feet that it takes an automobile to stop if it is traveling *S* miles per hour is given by. Find the distance it would take an automobile traveling 60 miles per hour to stop. Round your answer to the nearest tenth of a foot.
3. **Open-Ended** Write two radical equations that have no solutions. Explain why all the solutions are extraneous.