Name_____ Class _____ Date _____

Practice

10.1

Graphing Radical Functions

Graph each function. Show the table of values for each graph.

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

4. $y = -\sqrt[3]{x} + 2$ **5.** $y = 2\sqrt[3]{x} - 3$ **6.** $y = \sqrt[3]{x + 3} - 1$

Rewrite each function to make it easy to graph using transformations of its parent function. Describe the graph. *(Do not graph)*

7. $y = \sqrt{81x + 162}$ **8.** $y = -\sqrt{4x + 20}$ **9.** $y = \sqrt[3]{125x - 250}$

10. $y = -\sqrt{64x + 192}$ **11.** $y = -\sqrt[3]{8x - 56} + 4$ **12.** $y = \sqrt{25x + 75} - 1$

Solve the following problems. (*Round your answers to the nearest tenth*)

13. To find the radius r of a sphere of volume V, use the equation $r = \sqrt[3]{\dfrac{3V}{4\pi}}$.

A balloon used for advertising special events has a volume of 225 ft^3. What is the radius of the balloon?

14. An exercise specialist has studied your exercise routine and says the formula $t = 1.85\sqrt{c + 10}$ expresses the amount of time t, in minutes, it takes you to burn c calories (cal) while exercising.

According to this formula, how long should it take you to burn 100 cal? 200 cal? 300 cal?

15. You can use the equation $t = \dfrac{1}{4}\sqrt{d}$ to find the time t, in seconds, it takes an object to fall d feet after being dropped.

How long does it take the object to fall 400 feet?