Name _____ Class _____ Date _____

10-3 Practice

Graphing Radical Functions

Graph: Use (a, h, & k) to find the P.O.S. and write the domain and range. (*Include a table of values)*

1. $y = \sqrt[3]{x} - 4$

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

3. $y = \frac{1}{2}\sqrt[3]{x-1} + 3$

4. $y = 2\sqrt[3]{x-4}$

5. $y = -\sqrt[3]{8x} + 5$

6. $y = -3\sqrt[3]{x-4} - 3$

Solve the following for the indicated variable.

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

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

8. 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.

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

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

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

10. A center-pivot irrigation system can water from 1 to 130 acres of crop land. The length *l* in feet of rotating pipe needed to irrigate *A* acres is given by the function $l = 117.75\sqrt{A}$.

a. What length of pipe is needed to irrigate 40, 80, and 130 acres?