10-5

Practice   *Form K*

Graphing Square Root Functions

Find the domain of each function.

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

2. $y = \frac{2}{5}\sqrt{x}$

3. $y = -3\sqrt{5x + 10}$

4. $y = \sqrt{x - 7}$

5. $y = 3.5\sqrt{x + 3}$

6. $y = \sqrt{4x - 16}$

Make a table of values and graph each function.

7. $y = \sqrt{x + 4}$

8. $y = 2\sqrt{x}$

9. $y = \sqrt{x - 5}$

10. $y = 3\sqrt{2x + 1}$

11. $y = 2\sqrt{\frac{x}{2} - 4}$

12. $y = \sqrt{8x + 5}$

13. A pendulum completes one full swing every *t* seconds. The variable *t* is determined by the function $t = 2\sqrt{\frac{l}{3.3}}$ where *l* is the length in meters of the pendulum. What are the domain and range of the function? Graph the function. What is the length of a pendulum in meters that takes 5 seconds to complete one full swing?

10-5 Practice (continued)   *Form K*

Graphing Square Root Functions

Graph each function by translating the graph of $y = \sqrt{x}$ **.**

14. $y = \sqrt{x} + 3$ **15.** $y = \sqrt{x} - 3$

16. $y = \sqrt{x + 3}$ **17.** $y = \sqrt{x - 3}$

18. The braking distance d in feet when stopping a car in an emergency
is modeled by the function $s = \sqrt{21d}$,where s is the speed of the
car in miles per hour. Graph the function. How many feet does it
take to stop if the car is traveling 25 mph? 50 mph? Round to the
nearest foot.

Make a table of values and graph each function.

19. $y = 5\sqrt{x - 6} + 10$ **20.** $y = 2\sqrt{x + 2} - 6$ **21** $y = 5\sqrt{x - 2}$

22. Reasoning Is the following statement true or false? The domain of a square root
function only includes positive numbers. If the statement is false, provide a
counterexample.

23. Writing Explain how the graph of $y = \sqrt{x + 4}$ is related to the graph of $y = \sqrt{x}$.