Name _____ Class _____ Date _____

Reteaching 10-5

Graphing Square Root Functions

OBJECTIVE: Graphing square root functions

MATERIALS: Graph paper

Make a table of the values for x and y. These values can be plotted as ordered pairs.

Example

Make a table and then graph the function $y = \sqrt{6 + x}$.

Step 1 Select a domain that makes the expression under the radical greater than or equal to zero.

$$6 + x \geq 0$$

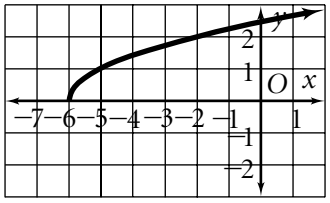
$$x \geq -6$$

Domain $= -6, -5, -2, 3, \ldots$

Step 2 Make a table like the one below. Replace x with each member of the domain to find y.

Domain	Replace x to find y.	Range
x	$\sqrt{6 + x}$	y
-6	$\sqrt{6 + (-6)} = \sqrt{0}$	0
-5	$\sqrt{6 + (-5)} = \sqrt{1}$	1
-2	$\sqrt{6 + (-2)} = \sqrt{4}$	2
3	$\sqrt{6 + 3} = \sqrt{9}$	3

Step 3 Use the values for x and y from the table to graph the function.



What do all of the y-values have in common? They are all positive.

Exercises

Graph each function using Steps 1–3.

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

2. $f(x) = \sqrt{x - 2}$

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

Graph each function.

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

5. $f(x) = \sqrt{x} - 4$

6. $f(x) = \sqrt{5 - x} + 1$

7. $f(x) = \sqrt{x - 1} - 2$

8. $f(x) = \sqrt{x} + 3$

9. $f(x) = \sqrt{1 - x} + 3$

10. $f(x) = \sqrt{x + 5} - 1$

11. $f(x) = \sqrt{3x + 1} + 2$

12. $f(x) = \sqrt{3 - 2x} + 2$

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