

Graph each function on a graphing calculator, and identify its domain and range, x-intercepts and y-intercepts.

1. $f(x) = \sqrt{x+6}$
 Domain _____
 Range _____
 x-int _____
 y-int _____

3. $f(x) = 2\sqrt{x-3}$
 Domain _____
 Range _____
 x-int _____
 y-int _____

5. $f(x) = \sqrt[3]{x} + 2$
 Domain _____
 Range _____
 x-int _____
 y-int _____

2. $f(x) = \sqrt{x} - 1$
 Domain _____
 Range _____
 x-int _____
 y-int _____

4. $f(x) = 3\sqrt[3]{x}$
 Domain _____
 Range _____
 x-int _____
 y-int _____

6. $f(x) = \sqrt[3]{x-2}$
 Domain _____
 Range _____
 x-int _____
 y-int _____

Determine the parent function. Then describe the transformation.

7. $g(x) = \sqrt{x} - 7$
 Parent Graph _____
 Transformation (1) _____

10. $(x) = \frac{1}{2}\sqrt{x} - 1$
 Parent Graph _____
 Transformations(2) _____

8. $h(x) = 6\sqrt[3]{x}$
 Parent Graph _____
 Transformation(1) _____

11. $m(x) = -2\sqrt{x} - 4$
 Parent Graph _____
 Transformations(3) _____

9. $j(x) = \sqrt[3]{x-5} + 2$
 Parent Graph _____
 Transformations(2) _____

12. $d(x) = -\sqrt[3]{x+1} + 3$
 Parent Graph _____
 Transformations(3) _____

Answer the following multiple choice questions.

13. What is the domain of the function $f(x) = \sqrt{x-9}$?
- A) All real numbers
 - B) $x \geq -9$
 - C) $x \geq 0$
 - D) $x \geq 9$

14. The function g is a translation 2 units left and 5 units up of $f(x) = \sqrt{x}$. Which of the following represents g ?
- A) $g(x) = \sqrt{x+2} + 5$
 - B) $g(x) = 2\sqrt{x} + 5$
 - C) $g(x) = \sqrt{x+5} + 2$
 - D) $g(x) = 5\sqrt{x-2}$