

Algebra II

Function Investigation

SOL: AII.4

Objective: Investigate graphs of functions and describe the graph of a function simply by looking at its equation.

Pre-requisite

Skills: Know how to graph equations written in "y = form" on the CASIO

Materials:

- CASIO graphing calculator
- Student worksheet - Investigating functions

Directions: Follow the directions as detailed on the attached student worksheet.

Additional

Resources: illuminations.NCTM.org
(visit this site to further explore functions)

Algebra II

Graphing Activity: Investigating Functions

Name _____

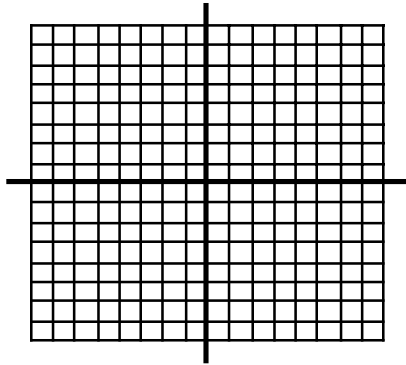
Date _____

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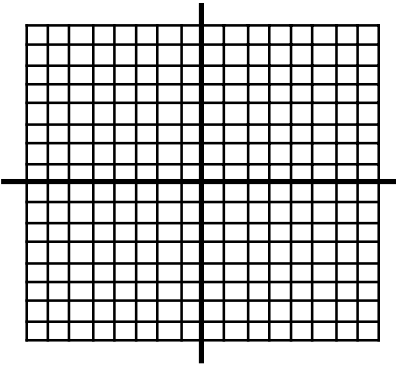
Graph each equation on a graphing tool like the CASIO, the TI-83, or the graphing calculator on the iBook. Then make a rough sketch of the graph on a coordinate plane.

OBJECTIVE: I want you to be able to automatically predict what the graph should look like simply by seeing its equation. You should know automatically how many curves it has, what it should look like, how many times it could cross the x-axis, the general direction of the graph, etc.

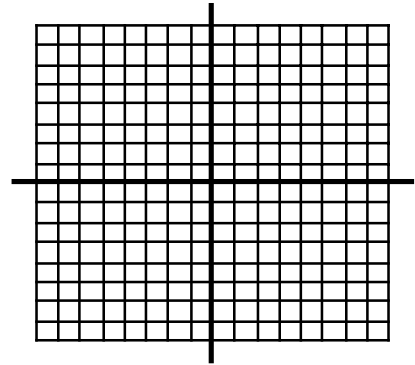
1. $f(x) = 4x$



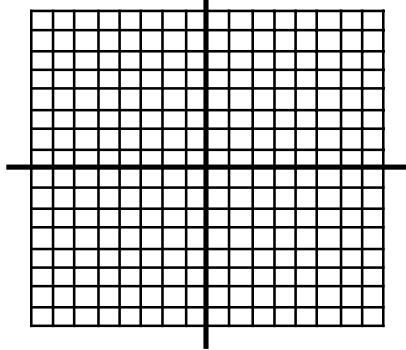
2. $f(x) = |x - 2|$



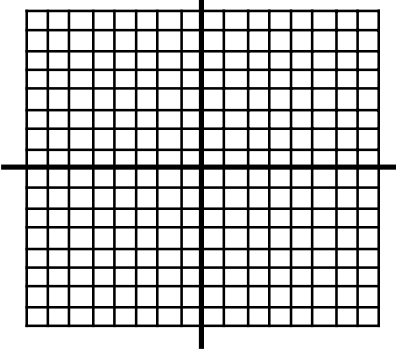
3. $f(x) = x^2 - 5x - 6$



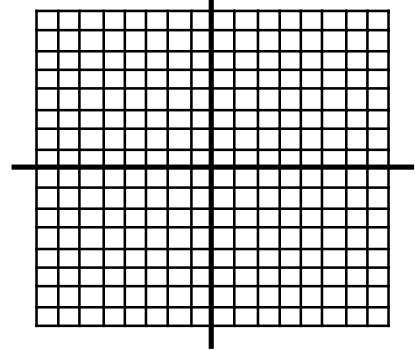
4. $f(x) = x^3$



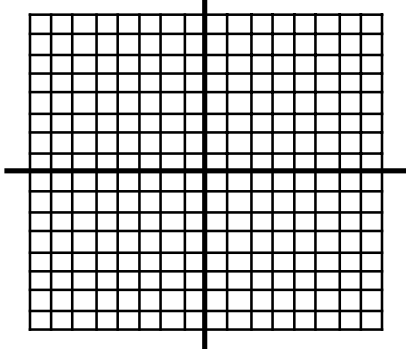
5. $f(x) = -2x^3$



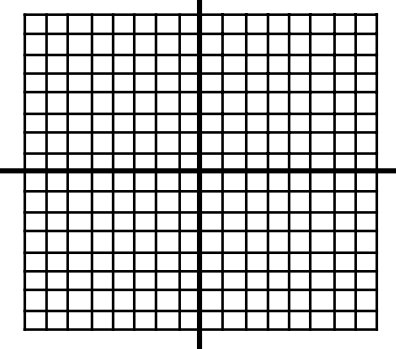
6. $f(x) = x^3 + 1$



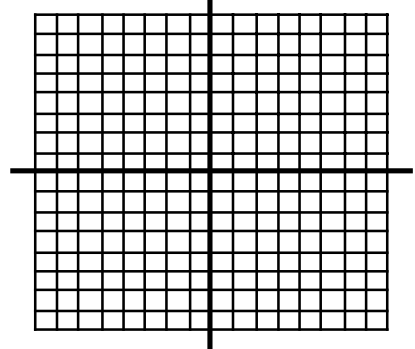
7. $f(x) = 2^x$



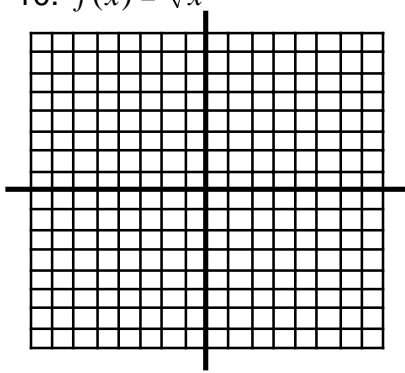
8. $f(x) = -2^x$



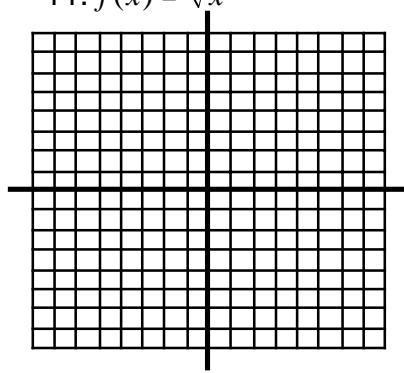
9. $f(x) = 3^x$



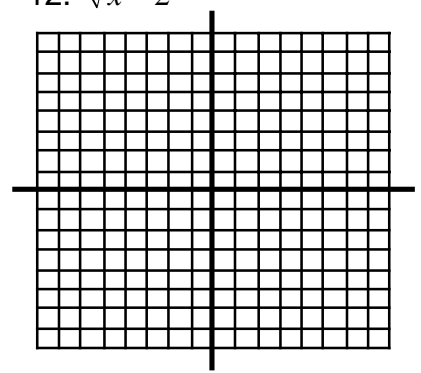
10. $f(x) = \sqrt{x}$



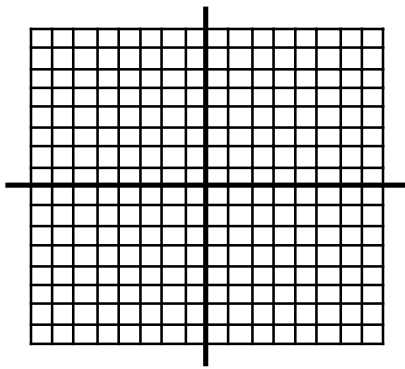
11. $f(x) = \sqrt[3]{x}$



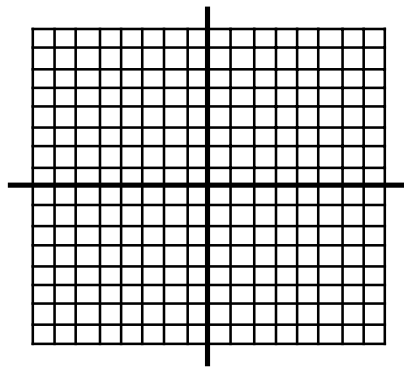
12. $\sqrt{x-2}$



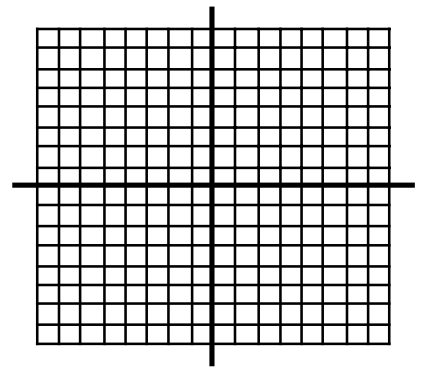
13. $f(x) = \frac{1}{x}$



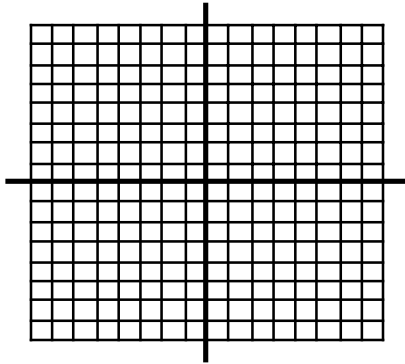
14. $f(x) = \frac{3}{x+1}$



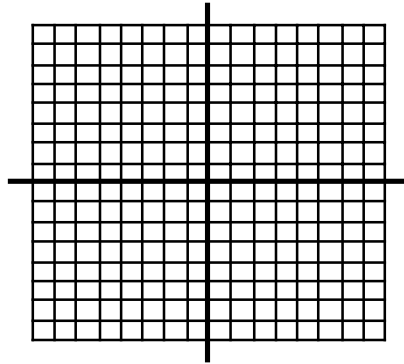
15. $f(x) = -\frac{2}{x+1}$



16. $f(x) = 3x + 1$



17. $f(x) = 3x^2 + 1$



18. $f(x) = 3x^3 + 1$

