Intersection of Graphs and Solutions

Today's Standard

HSA.REI.D11 - Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*

Cues	Notes
Intersection points	Intersection points of y = f(x) and y = g(x) give solutions to f(x) = g(x).
Graphing functions	Graphing functions helps visualize solutions.
x-coordinates as solutions	x-coordinates where graphs intersect are solutions.
Types of functions	Linear, polynomial, rational, absolute value, exponential, and logarithmic functions can intersect.
Common misconceptions	Misconceptions: y-coordinates as solutions, only linear functions intersect.

Summary

The x-coordinates of intersection points of two functions' graphs represent the solutions to f(x) = g(x). This concept applies to various types of functions and helps solve real-world problems.