Graph Transformations and Function Analysis

Today's Standard

HSF.BF.B3 - Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.

Real-World Applications for this Standard

Modeling population growth or decay in biology; Analyzing financial growth in economics; Adjusting sound waves in audio engineering; Predicting projectile motion in physics; Designing computer graphics transformations

Today I Learned

Today, we learned about how changing parts of a math function, like adding or multiplying, changes its graph. We used graphs and computers to see these changes.

Common Stumbling Blocks

Sometimes, kids think adding a number moves the graph sideways, but it actually moves it up or down. They might also mix up what happens when you multiply parts of the function.

Quiz Me

- What happens when you add a number to a function?
- How does multiplying a function by a number change the graph?
- What is a vertical shift?
- What is a horizontal shift?
- What tool can help us see these changes?

Help Me

Changing parts of a function helps us understand things like how populations grow or how money increases. For example, adding to a function can show more growth, and multiplying can show faster changes.