Exponential Growth vs. Polynomial Growth

Today's Standard

HSF.LE.A3 - Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.

Real-World Applications for this Standard

Population growth vs. resource consumption; Investment growth vs. simple interest; Spread of diseases vs. linear recovery rates; Technology advancement vs. linear improvements

Today I Learned

Today, we learned about how different types of functions grow over time. Exponential growth gets bigger faster than linear and quadratic growth.

Common Stumbling Blocks

Some students might think that linear growth can eventually catch up with exponential growth, but this isn't true because exponential growth speeds up over time. Others might think that quadratic growth is always faster than exponential growth, but that's only true at first.

Quiz Me

- What is exponential growth?
- How does linear growth increase?
- What is quadratic growth?
- Which grows faster: linear or exponential?
- Can quadratic growth always beat exponential growth?

Help Me

Exponential growth means something gets bigger and bigger very quickly, like how money can grow in a bank with interest. Linear growth means something gets bigger by the same amount each time, like adding the same number of candies to a jar every day. Quadratic growth means something grows faster than linear but not as fast as exponential, like how a tree grows taller each year.