



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.

Cues	Notes
Exponential Growth	Exponential growth increases at a rate proportional to its current value, leading to rapid growth over time.
Linear Growth	Linear growth increases by a constant amount over equal intervals.
Quadratic Growth	Quadratic growth involves a squared term and increases more rapidly than linear growth but is eventually outpaced by exponential growth.
Polynomial Functions	Polynomial functions include terms with varying degrees, such as linear (degree 1), quadratic (degree 2), and higher degrees.
Graphs and Tables	Graphs and tables can be used to visualize and compare the growth rates of different functions.

Summary

Understanding the differences in growth rates between exponential and polynomial functions is crucial for analyzing real-world problems. Exponential growth eventually surpasses linear and quadratic growth, which can be observed using graphs and tables.