

Exponential Growth and Decay Functions

Today's Standard

HSF.IF.C8b - Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)12^t$, $y = (1.2)^t/10$, and classify them as representing exponential growth or decay.

Real-World Applications for this Standard

Population growth models; Radioactive decay in physics; Interest calculations in finance; Spread of diseases in epidemiology

Today I Learned

Today, we learned about exponential functions. These are special math rules that help us understand things that grow or shrink quickly, like how fast a plant grows or how quickly ice melts.

Common Stumbling Blocks

Sometimes, kids think all exponential functions mean things are growing, but they can also mean things are shrinking. Another tricky part is knowing the difference between the base number and the rate of change.

Quiz Me

- What is an exponential function?
- Can exponential functions show things getting smaller?
- What does the base of an exponent tell us?
- What does it mean if the base is greater than 1?
- What does it mean if the base is between 0 and 1?

Help Me

Exponential functions help us understand real-world things like how fast money grows in a bank or how quickly a virus spreads. They can show both growing and shrinking patterns.