

Name: _____

Date: _____

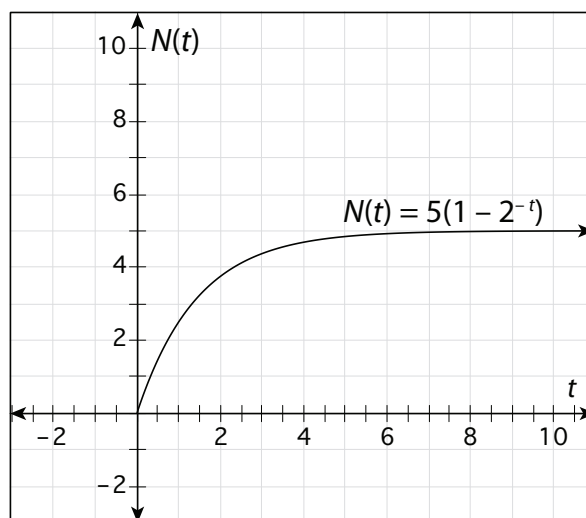
UNIT 1 • BUILDING MATHEMATICAL COMMUNITY WITH PARENT FUNCTIONS AND KEY FEATURES

Lesson 1.1: Reading and Identifying Key Features of Real-World Situation Graphs

Lesson 1.1: Reading and Identifying Key Features of Real-World Situation Graphs

Warm-Up 1.1

The exponential function $N(t) = 5(1 - 2^{-t})$, graphed as follows, describes the number of breeding pairs of cougars that can be supported by a nature preserve. The independent variable t represents the time in years. Use the function equation and the graph to complete the problems.



1. What is the domain of t ?
2. Based on the graph and the domain, describe what happens to the function values as time increases.
3. Rewrite the function with a positive exponent.
4. Use the result of problem 3 to describe what happens to the function values as t increases.
5. What are the maximum and minimum function values? Explain what these values mean within the context of the problem.