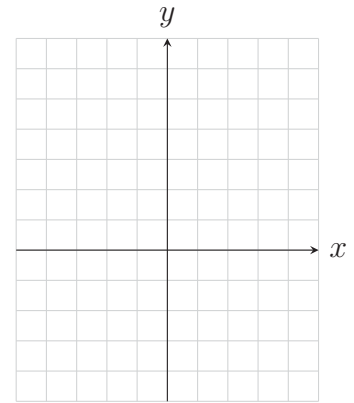


1. Graph  $f(x) = 2^{-x} - 3$  using transformations and state the domain, range, and horizontal asymptote of  $f$ .



2. Suppose an account has a 2.2% interest rate which is compounded monthly. What is the effective yearly factor of growth and interest rate? What is the effective 5-year factor of growth and interest rate?

3. Find  $f^{-1}$  if  $f(x) = -2 \log_2(x + 3) - 1$

4. Solve the following equations.

a.  $3 \cdot 5^{x+1} = 8$

b.  $\log_5(2x + 3) = 4$