3. [5 points] A mysterious substance decays by 30% every 6 years. Find the half-life of this substance. (Show your work carefully and either give your answer in exact form or round your answer to the nearest 0.01 year.)

Answer: ________________

4. [7 points] Consider the function $B$ defined by $B(x) = 15 - e^{-0.001x}$.
   a. [3 points] Let $f(x) = e^x$. Use transformations to find a formula for $B(x)$ in terms of $f$.

   $B(x) = ________________$

   b. [4 points] Find the vertical and horizontal asymptotes of the graph of $y = B(x)$. (If there are no vertical or no horizontal asymptotes, write "NONE" on the appropriate line(s).)

   Vertical asymptote(s): ________________

   Horizontal asymptote(s): ________________