3. [8 points] Traditionally, it has been assumed that a D year-old dog is the same biological age as a $7D$ year-old human. So a 3 year-old dog (in actual years) has aged as much as a 21 year-old human.

However, scientists have found a new aging formula for Labrador retrievers that takes specific biological aging markers into account. The new formula claims that a D year-old Labrador retriever (in actual years) has aged as much as a human who is

$$H = f(D) = 15\ln(D) + 31 \text{ years old}$$

One strange thing about this formula they came up with is that it doesn't go through the point $(0,0)$ as we'd expect it to. In fact, we can't plug in 0 to this formula at all!

   a. [2 points] Explain in one sentence why we can't plug $D = 0$ into this formula.

     Explanation:

   b. [3 points] According to this formula, at what age (in real years) will a dog be biologically equivalent to a newborn baby $(H = 0)$?
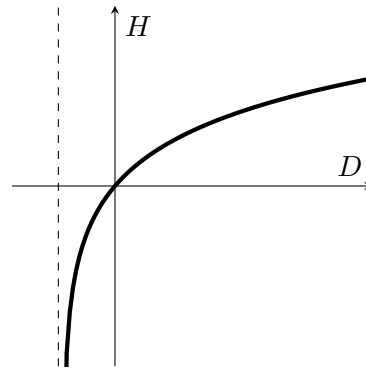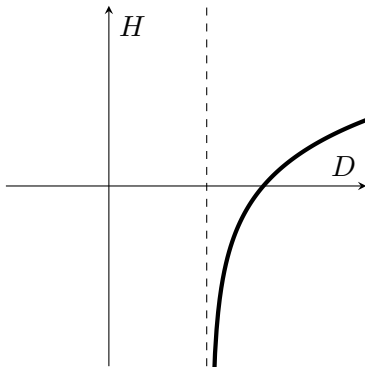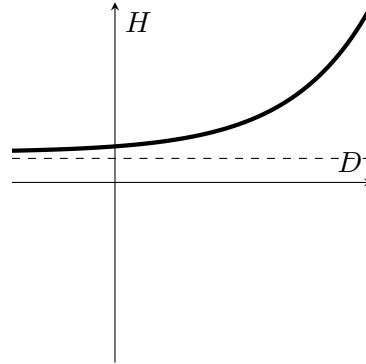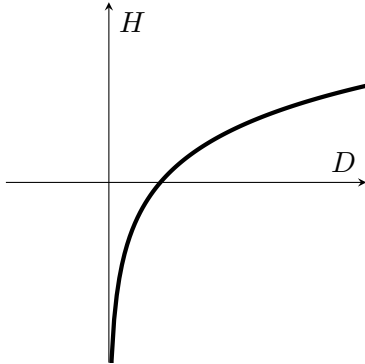   *Show all work. Give your final answer in decimal form, NOT exact form.*

$$D = \underline{\hspace{4cm}}\text{years}$$

This problem continues on the next page.

c. [3 points] Now considering the same function without its context: which of the graphs below could be the graph of

$$f(D) = 15\ln(D) + 31?$$

Circle the correct graph or NONE.

NONE OF THESE GRAPHS COULD REPRESENT THE FUNCTION $f(D)$.