7. [12 points] The rate of vertical growth \( r(t) \) of a tree, in meters per month, is given by

\[
 r(t) = \frac{10}{(t + 1)^{3/2}}.
\]

Here, \( t \) is measured in months after the tree was planted. **When the tree was planted its height was 1 meter.**

a. [4 points] Write an expression, possibly involving one or more integrals, for the height of the tree after exactly 1 year has passed since planting it. You do not need to evaluate your integral(s).

b. [2 points] Let \( h(t) \) be the height of the tree, in meters, \( t \) months after it was planted. Write an expression, possibly involving one or more integrals, for the function \( h(t) \). You do not need to evaluate your integral(s).

c. [6 points] Assuming the tree lives long enough, will the tree ever grow more than 20 meters tall? Justify your answer, and be sure to use proper notation.